

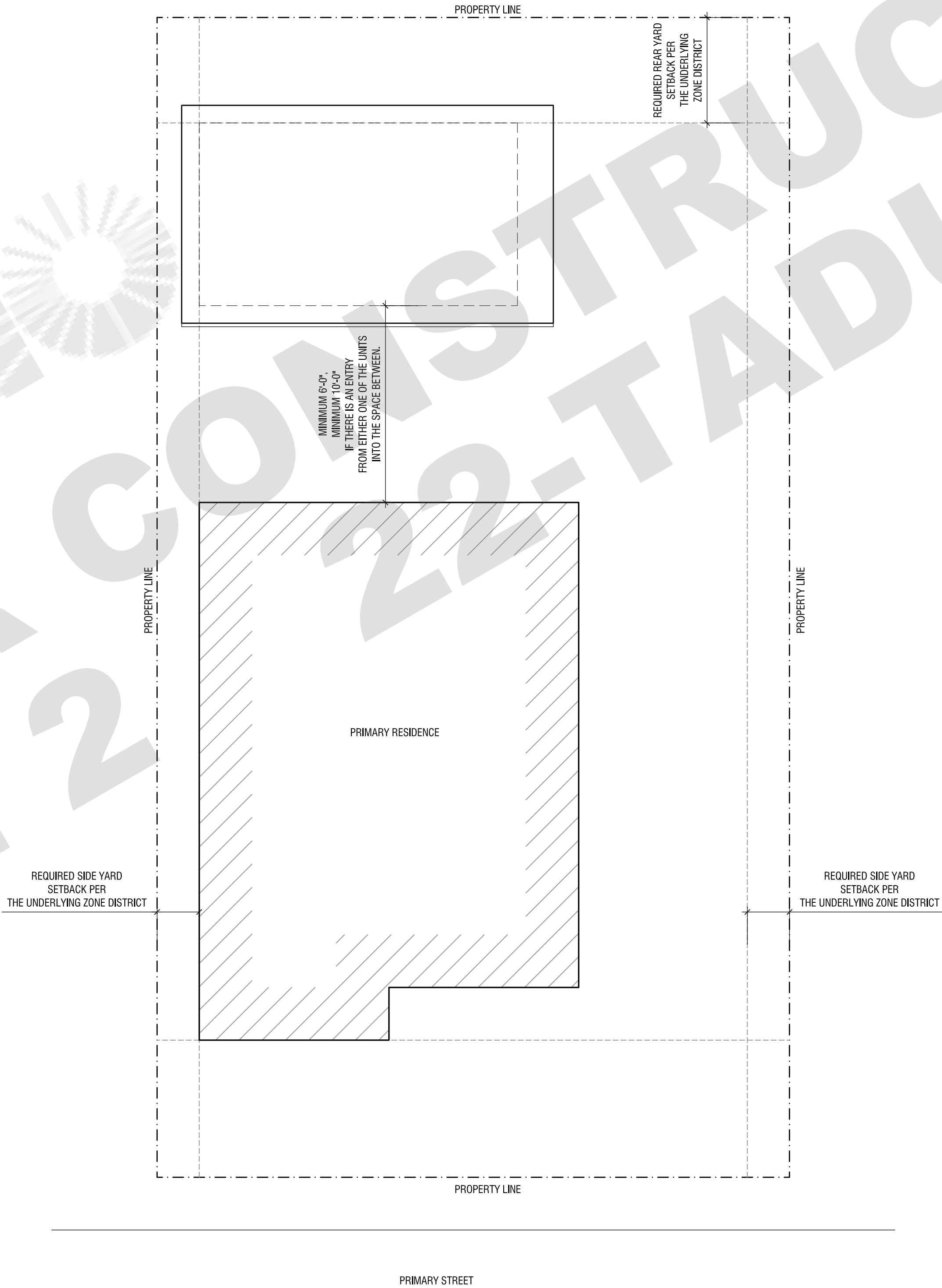
1

Provide Special Inspection for Field Verification and Diagnostic Testing performed by a third party certified HERS Rater for the following:
a) Quality insulation installation
b) Indoor air quality ventilation
c) Kitchen range hood
d) Minimum air flow
e) Verified EER
f) Verified SEER
g) Verified refrigerant charge
h) Fan efficacy watts / CFM
i) Verified HSPF
j) Verified heat pump rated heating capacity
k) Duct leakage testing
l) Ducts located entirely in conditioned space confirmed by duct leakage testing

NOTES:
After installing Water Heating Systems, Fenestration, and HVAC equipment, the installer shall submit the Installation Certificate* (CF-2R form), completed and signed by the installer, listing the equipment installed, (manufacturer, model, and efficiencies, U-Values and SHGC-values, etc.) and that it meets or exceeds the requirements of the energy documentation, (CEES section 10-103(a)(3)) (Registered copies shall be provided when HERS verification is required.)

NOTES:
REGISTERED copies of the CF-2R and CF-3R forms shall be submitted prior to prior to final inspection, signed by certified by the installer(s) for the CF-2R form, and the HERS Rater, for Field Verification and Diagnostic Testing on the CF-3R form, (CEES 10-103(a)(3) and 10-103(a)(5))

NOTES:
a) LOT SHALL BE GRADED TO DRAIN WATER AWAY FROM ALL FOUNDATIONS AT A SLOPE OF 5% WITHIN 10 FEET OF THE BUILDING. (CRC SECTION R401.3)
b) IMPERVIOUS SURFACES WITHIN 10' OF THE BUILDING FOUNDATION SHALL SLOPE A MINIMUM OF 2% AWAY FROM BUILDING.
c) ALL SITE GRADING OUTSIDE OF THE BUILDING ENVELOPE IS REQUIRED TO BE A MINIMUM OF 0.5% DIRECTED TOWARDS THE STREET.



DRAWING INDEX		
A.001	DRAWING INDEX / SITE PLAN / SITE SECTION	AS NOTED
A.002	GENERAL NOTES	AS NOTED
A.020c	TYPICAL DETAILS	3"=1'-0"
A.020g	TYPICAL DETAILS	3"=1'-0"
A.020s	TYPICAL DETAILS	3"=1'-0"
A.021	TYPICAL DETAILS	AS NOTED
A.100c	FLOOR PLAN	1/4"=1'-0"
A.100g	WINDOW SCHEDULE / ELEVATIONS	1/2"=1'-0"
A.100s	DOOR SCHEDULE / ELEVATIONS	1/2"=1'-0"
A.100g	FLOOR PLAN	1/4"=1'-0"
A.100s	WINDOW SCHEDULE / ELEVATIONS	1/2"=1'-0"
A.100s	DOOR SCHEDULE / ELEVATIONS	1/2"=1'-0"
A.101c	FLOOR PLAN	1/4"=1'-0"
A.101g	WINDOW SCHEDULE / ELEVATIONS	1/2"=1'-0"
A.101s	DOOR SCHEDULE / ELEVATIONS	1/2"=1'-0"
A.101c	ROOF PLAN	1/4"=1'-0"
A.101g	ROOF PLAN	1/4"=1'-0"
A.101s	ROOF PLAN	1/4"=1'-0"
A.110c	REFLECTED CEILING PLAN	1/4"=1'-0"
A.110g	LIGHTING SCHEDULE	N/A
A.110g	REFLECTED CEILING PLAN	1/4"=1'-0"
A.110g	LIGHTING SCHEDULE	N/A
A.110s	REFLECTED CEILING PLAN	1/4"=1'-0"
A.110s	LIGHTING SCHEDULE	N/A
A.200c	EXTERIOR ELEVATION	1/4"=1'-0"
A.200g	BUILDING SECTIONS	1/4"=1'-0"
A.200g	EXTERIOR ELEVATION	1/4"=1'-0"
A.200s	BUILDING SECTIONS	1/4"=1'-0"
A.200s	EXTERIOR ELEVATION	1/4"=1'-0"
A.200s	BUILDING SECTIONS	1/4"=1'-0"
A.400	INTERIOR ELEVATIONS	1/2"=1'-0"
A.401c	APPLIANCE SCHEDULE / PLUMBING SCHEDULE	N/A
A.401g	INTERIOR ELEVATIONS	1/2"=1'-0"
A.401s	INTERIOR ELEVATIONS	1/2"=1'-0"
A.401s	INTERIOR ELEVATIONS	1/2"=1'-0"
S.000	STRUCTURAL GENERAL NOTES & SHEET LIST	N/A
S.010	TYPICAL CONCRETE DETAILS	AS NOTED
S.020	TYPICAL WOOD DETAILS - GENERAL AND STUD WALLS	AS NOTED
S.021	TYPICAL WOOD DETAILS - SHEAR WALLS	AS NOTED
S.022	TYPICAL WOOD DETAILS - SHEAR WALLS	AS NOTED
S.023	TYPICAL WOOD DETAILS - DIAPHRAGMS	AS NOTED
S.100c	FOUNDATIONS AND FRAMING PLANS - CRAFTSMAN	1/4"=1'-0"
S.100g	FOUNDATIONS AND FRAMING PLANS - GABLE	1/4"=1'-0"
S.100s	FOUNDATIONS AND FRAMING PLANS - CONTEMPORARY	1/4"=1'-0"
S.110c	CEILING FRAMING PLAN - CRAFTSMAN	1/4"=1'-0"
S.110g	CEILING FRAMING PLAN - GABLE	1/4"=1'-0"
S.110s	CEILING FRAMING PLAN - CONTEMPORARY	1/4"=1'-0"
S.200c	ELEVATIONS AND SECTIONS - CRAFTSMAN	1/4"=1'-0"
S.200g	ELEVATIONS AND SECTIONS - GABLE	1/4"=1'-0"
S.200s	ELEVATIONS AND SECTIONS - CONTEMPORARY	1/4"=1'-0"
T24-2	TITLE 24 ENERGY ANALYSIS	N/A
MM-1	TITLE 24 MANDATORY MEASURES	N/A
MM-2	TITLE 24 MANDATORY MEASURES	N/A
M-0.00	MECHANICAL SPECS, LEGENDS & SYMBOLS	N/A
M-1.01	MECHANICAL LAYOUT	AS NOTED
P0.00	PLUMBING SPECS, DETAILS & SYMBOLS	N/A
P1.01	WATER SUPPLY LAYOUT	AS NOTED
P1.02	GAS LAYOUT	AS NOTED
P1.03	DRAINAGE LAYOUT	AS NOTED
E-0.00	ELECTRICAL SPECS, LEGEND & SYMBOLS	N/A
E-1.01	LIGHTING LAYOUT	AS NOTED
E-2.01	POWER LAYOUT	AS NOTED
E-0.01	ELECTRICAL SINGLE LINE DIAGRAM	N/A
PV-1	PLOT PLAN & LAYOUT	3/16"=1'-0"
PV-2	ELECTRICAL DESIGN	N/A
PV-3	EQUIPMENT SPECIFICATION	N/A
PV-4	EQUIPMENT SPECIFICATION	N/A

PROJECT DATA

PROJECT DESCRIPTION: ACCESSORY DWELLING UNIT
PROJECT ADDRESS: CITY OF FRESNO
ZONING: RE/RS-1/RS-2/RS-3/RS-4/RS-5
CONSTRUCTION TYPE: TYPE V-B
BUILDING AREA: (N) FIRST LEVEL = 514 SF
LOT COVERAGE: PER THE UNDERLYING ZONE DISTRICT
NUMBER OF STORIES: SINGLE STORY RESIDENTIAL
OCCUPANCY: R3 OCCUPANCY GROUP
REQUIRED YARDS: PER THE UNDERLYING ZONE DISTRICT
BUILDING HEIGHT: 30'-0" MAXIMUM HEIGHT ENVELOPE

LEGEND

1	EAST-WEST REFERENCE LINE	04	WINDOW NUMBER
A	NORTH-SOUTH REFERENCE LINE	42	DOOR NUMBER
01	ELEVATION	01	DETAIL
04	SECTION	22	ROOM TAG
01	SECTION	GARAGE	WALL TYPE

ADU PROGRAM

OWNER:

CITY OF FRESNO
PLANNING AND DEVELOPMENT DEPARTMENT
2000 FRESNO STREET, 3RD FLOOR
FRESNO, CA 93721

ARCHITECT:

AARON NEUBERT ARCHITECTS, INC.
2814 ROWENA AVENUE, SUITE ONE
LOS ANGELES, CALIFORNIA 90009
P. 323.955.4700 F. 323.955.4900
AARON NEUBERT CAP C-29005

STRUCTURAL ENGINEER:

NOUS ENGINEERING, INC.
600 WILSHIRE BOULEVARD, SUITE 700
LOS ANGELES, CALIFORNIA 90017
P. 313.887.6887

MEP ENGINEER:

INNODEZ DESIGN AND ENGINEERING
726 FORBROUGH PLACE
PLASANTON, CALIFORNIA 94566
P. 924.414.0987

REVISION: DATE: COMMENT:

2	REVISION #2 06.03.22	PLAN CHECK CORRECTIONS
1	REVISION #1 04.04.22	PLAN CHECK CORRECTIONS

SEAL:



Project No. 2104
ADU PROGRAM
CITY OF FRESNO
CALIFORNIA

DRAWING TITLE:
SITE PLAN
ADU 02

514 SF

DATE: JUNE 3, 2022

SCALE: 1/4"=1'-0"

DRAWN BY:

GENERAL NOTES

Code Reference:
California Building Code 2019 (CBC)
California Residential Code 2019 (IRC)
California Green Building Standard Code 2019 (CGBCSC)
California Mechanical Code 2019 (CMC)
California Electrical Code 2019 (CEC)
California Plumbing Code 2019 (CPC)

Code Compliance and Inspection Per City Of Fresno:

- 1.All construction shall Conform to California Building Code 2019 pertaining to Type VB construction and all other applicable codes.
2. An approved set of drawings bearing the stamp of the City of Fresno Building and Safety Department shall be available on the construction site at all times. All appropriate and necessary Department of Building and Safety permits must be posted at all times.

General Construction Notes:

1. First verify all materials or doing any work, each trade shall verify all measurements at the building and shall be responsible for the correctness of the same. No extra charge or compensation will be allowed on account of differences between actual dimensions and the measurements indicated on the drawings; any discrepancies between the drawings and field conditions which may be found shall be submitted to the Architect for consideration and clarification before proceeding with the work. The contractor shall be responsible for any deviation from the Contract Documents.
2. All of the Architect's drawings and construction notes are complimentary and what is called for will be binding as if called for by all; any work shown or referred to on any one drawing shall be provided as though shown on all drawings.
3. The work to be performed consists of furnishing all labor, equipment, tools, transportation, supplies, fees, materials and services in accordance with these notes and drawings; and includes performing all operations necessary to construct and install complete, in satisfactory condition, the various materials and equipment at the locations shown.
4. All dimensions to from stud to stud; or center of stud to center of stud (unless otherwise noted).
5. Contractor to field verify all dimensions and elevations for clearances and notify Architect of any discrepancies between Drawings and actual conditions.
6. Full size or large scale details or drawings shall govern small scale drawings which they are intended to amplify.
7. The standard specifications of the manufacturer for products called for in the drawings and notes are hereby made a part of these notes with the same force and effect as though herein written out in full.
8. All materials required for the performance of this work shall be new and of the best quality of the kinds specified. The use of old or second hand materials is strictly forbidden, except for locations on the drawings that refer to removal and relocation of materials or equipment. Materials shall be used in accordance with the manufacturer's specifications. The contractor shall submit all product warranties. The contractor will warranty all work as per applicable regulations.
9. Plumbing, Electrical and Mechanical work shall be performed by a licensed member of the respective trade.
10. All insurance costs and costs associated with permits, inspection and sign-offs shall be at the contractors cost.
11. Certificates of insurance are required from the licensed electrician, licensed plumber, and the general contractor for the amounts specified by the contract.
12. All contractors, sub-contractors and others working on the project shall submit waivers of liens signed at the completion of their work.
13. The premises and job site shall be maintained in a reasonably neat and orderly condition and kept free from accumulations of waste materials and rubbish during the entire construction period. The contractor shall remove all crates, cartons and other trash from the work areas each day, and shall be responsible for its proper disposal. The premises shall be protected throughout construction and shall be turned over in spotless and orderly condition. All fixtures and equipment will be left in undamaged, bright, clean and polished condition.
14. Construction work will be confined to the areas designated on the drawings and will not create dust, dirt or other inconveniences to other spaces.
15. Provide approved job site toilet that is available to anyone involved in construction activities.
16. The construction shall not restrict a five-foot clear and unobstructed access to any water or power distribution facilities (power poles, pull-boxes, transformers, vaults, pumps, valves, meters, appurtenances, etc.) or to the location of the hook-up. The construction shall not be within ten feet of any power lines-whether or not the lines are located on the property. Failure to comply may cause construction delays and/or additional expenses.
17. Nothing shall interfere with the rights, comforts, or conveniences of any neighbors. No construction work, repair work, or other installation involving noise shall be conducted except on city approved work days/hours, unless such construction or repair work is necessitated by an emergency, or otherwise agreed to by owner.
18. Provide all temporary and permanent shoring as required in structural drawings.
19. All wood floors to be secured as required to prevent cracking. All holes to be patched.
20. Provide gutters and downspouts as required.
21. Weatherstrip exterior doors from heated spaces.
22. Upon completion of project, premises shall be left broom clean, swept free of dirt and dust, all glass to be clean, all fixtures and appliances made fully operational, all systems, (electrical, plumbing, hvac, etc.) to be made fully operational and balanced. All warranties and manuals of systems reviewed with and given to owner.
23. All work shall be subject to final inspection by the Architect.
24. A copy of the evaluation report and/or conditions of listing shall be available at the job site.
25. Materials delivered to the construction site shall be protected from rain or other sources of moisture.
26. An Operation and Maintenance Manual for any newly installed equipment, appliances, HVAC system, photovoltaic system, electric vehicle chargers, water heating system, landscape irrigation and other major appliances and equipments, shall be provided in the building at the time of final inspection.

Moisture Protection:

1. Flash and counter-flash at all roof to wall conditions.
2. G.I. flash and caulk wood beams projecting form exterior wall or roof surfaces.
3. All exterior finish materials shall be applied over minimum 30# asphalt saturated felt, unless otherwise noted.
4. Flash all exterior openings with approved waterproof building paper to extend at least 3" under the building paper behind the wall covering.
5. Shower and bathtub wall surrounds shall be stone/tile as noted, to a minimum 6"-8" a.f.f. and shall also extend 4" beyond the face of shower pan or tub.
6. Bathtub and shower floors, walls above bathtubs with a showerhead, and shower compartments shall be finished with a nonabsorbent surface. Such wall surfaces shall extend to a height of not less than 6 feet above the floor (R 307.2)

Fire Protection:

1. All building materials stored at the construction site and/or inside the building are to be secured in a locked area. Access to such areas to be controlled by the Owner and/or the General Contractor.
2. All materials are to be stored in an orderly manner.
3. All flammable materials to be kept tightly sealed in their respective containers. Such materials are to be kept away from all heat sources.
4. All flammable materials to be used and stored in an adequately ventilated space.
5. All electrical power to be shut off where there is exposed conduit.
6. All electrical power in the construction area to be shut off after working hours.
7. The contractor will at all times make sure that there is no leakage of natural gas in the building, or any flammable gas used in construction.
8. Provide a class A,B or C fire-retardant roof covering per Section (R 902.1).
9. On site fire protection equipment (such as extinguisher) will be kept readily available at all times.
10. If fire sprinkler system is required, fire sprinkler system shall be approved by Plumbing Division prior to installation.
11. In combustible construction, fire blocking shall be provided to cut off all concealed draft openings (both vertical and horizontal) and to form an effective fire barrier between stories, and between a top story and the roof space. (R 302.11)
12. Enclosed accessible space under stair shall have walls, under-stair surface and any soffits protected on the enclosed side with 1/2 inch gypsum board, (R302.7)
13. Smoke detectors shall be provided for all dwelling units intended for human occupancy, where a permit is required for alterations, repairs or additions. (R 314.2)
14. Where a permit is required for alterations, repairs or additions, existing dwellings or sleeping units that have attached garages or fuel-burning appliances shall be provided with a carbon monoxide alarm in accordance with Section R315.2. Carbon monoxide alarms shall only be required in the specific dwelling unit or sleeping unit for which the permit was obtained. (R 315.2)
15. An approved smoke alarm shall be installed in each sleeping room & hallway or area giving access to a sleeping room, and on first story and basement for dwellings with more than one story. Smoke alarms shall be interconnected so that actuation of one alarm will activate all the alarms within the individual dwelling unit. In new construction smoke alarms shall receive their primary power source from the building wiring and shall be equipped with battery back up and low battery signal (R 314)
16. An approved carbon monoxide alarm shall be installed in dwelling units and in sleeping units within which fuel-burning appliances are installed and in dwelling units that have attached garages. Carbon monoxide alarm shall be provided outside of each separate dwelling unit sleeping area in the immediate vicinity of the bedroom(s) and on every level of a dwelling unit including basements. (R 315.3)

Exits and Stairways:

1. The means of egress shall provide a continuous and unobstructed path of vertical and horizontal egress travel from all portions of the dwelling to the exterior of the dwelling at the required egress door without requiring travel through a garage. The required egress door shall open directly into a public way or to a yard or court that opens to a public way. (R 311.1)
2. At least one door shall be 36" wide by 80" high. (R 311.2)
3. Provide minimum 32" wide doors to all interior accessible rooms. (R 311.2)
4. The entry/exit door must open over a landing not more than 1.5' below the threshold. Exception: Providing the door does not swing over the landing. Landing shall be not more than 7.75' below the threshold. Storm and screen doors are permitted to swing over all exterior stairs and landings. (R 311.3, 1)
5. Landing at a door shall have a length measured in the direction of travel of no less than 36". (R 311.3)
6. A landing shall be provided at the top and bottom of stairways. (R 311.7.6)
7. Stairway details :
a. 7.75" maximum rise & minimum 10" run. (R 311.7.5)
b. Minimum 6'-8" headroom clearance. (R 311.7.2)
c. Minimum 36" clear width. (R 311.7.1)
d. Handrails 34" to 38" high above tread nosing (R 311.7.8.1)
e. Handgrip portion of handrail shall not be less than 1.25" and no more than 2" cross-sectional dimension having a smooth surface with no sharp corners. (R 311.7.8.5)
f. Maximum 4" clear spacing opening between rails.
8. All interior and exterior stairways shall be illuminated. (R 303.7)
9. For glass handrails and guards, the panels and their support system shall be designed to withstand the loads specified in Chapter 16 of CBC. A safety factor of four shall be used. The minimum nominal thickness of the glass shall be 1/4 inch. (CBC 2407)
10. Provide emergency egress from sleeping rooms and basements. Show details on plans. Minimum - 24" clear height, 20" clear width, 5.7 sf minimum area (5.0 sf at grade level) & 44" maximum to sill. (R 310.2.1)

Mechanical Notes:

1. Check existing mechanical system with reference to work being done. Replace existing equipment and ducts as required.
2. Refer to T24 energy notes for heating & air conditioning equipment requirements.
3. Mechanical System: Units, ducting and grilles to be design-built with full coordination between the General Contractor and the Architect for sizing and placement of equipment. All fixtures, devices and equipment shall comply with applicable regulations.
4. All duct and other related air distribution component openings shall be covered with tape, plastic, or sheet metal until the final startup of the heating, cooling and venting equipment. (CGBCSC 4.504.1)
5. Clothes dryer moisture exhaust ducts shall terminate outside the building and have a back-draft damper. Exhaust duct is limited to 14'-0" with two elbows. This shall be reduced 2'-0" for every elbow in excess of two. (CMC 504.4.2.1)

Electrical Notes:

1. Check existing system with reference to new work to be done. Re-route and /or replace portions (including service) as necessary.
2. Furnish and install all outlets, switches, fixtures and equipment indicated, including light bulbs, and install any fixtures and equipment furnished by owner.
3. Non-metallic sheathed cable shall be concealed or protected.
4. Provide ground-fault-circuit-interrupters (GFI) protection for all 125-volt, single phase, 15-and 20- amp bathroom, laundry, garage and exterior receptacles, countertop receptacles within 6'-0" of all sink locations, and all kitchen receptacles.
5. Central heating equipment requires individual branch circuits.
6. All fixtures, devices and equipment shall comply with applicable regulations.
7. At least one light outlet (wall switch controlled) shall be installed on the exterior side of outdoor entrances and exits. (NEC 210-70(a))

Plumbing Notes:

1. Check existing plumbing system with reference to new work to be done. Re-route and/or replace portions (including service) as necessary.
2. Furnish and install all fixtures indicated, complete for normal operation. Install any fixtures provided by owner.
3. All drain lines & waste lines from second floor to be cast iron.
4. An approved seismic gas shutoff valve will be installed on the fuel gas line on the down stream side of the utility meter and be rigidly connected to the exterior of the building or structure containing the fuel gas piping. Separate plumbing permit is required.
5. Plumbing fixtures are required to be connected to a sanitary sewer or to an approved sewage disposal system. (R 306.3)
6. Kitchen sinks, lavatories, bathtubs, showers, bidets, laundry tubs and washing machine outlets shall be provided with hot and cold water and connected to an approved water supply. (R 306.4)
7. Provide ultra low flush water closets for all new construction. Existing shower heads and toilets must be adapted for low water consumption.
8. Water heater shall be anchored or strapped to resist horizontal displacement due to earthquake motion. (CPC 2019)
9. Combustion air supplied to fuel burning appliances (water heaters, forced air units, furnaces) located in confined spaces (enclosures, compartments, utility rooms) within unusually tight construction (basement) shall conform to the provisions of (R 315)
10. The flow rates for all newly installed plumbing fixtures shall comply with the maximum flow rates in (CGBC 4.303)
11. When single shower fixtures are served by more than one showerhead, the combined flow rate of all the showerheads shall not exceed the maximum allowable flow rate of 1.8 gallons per minute at 80 PSI or the shower shall be designed to only allow one showerhead to be in operation at a time. (CGBC 4.303.1.3.2)

Environmental Quality:

1. Architectural paints and coatings, adhesives, caulks and sealants shall comply with the Volatile Organic Compound (VOC) limits listed in Tables (CGBCSC 4.504.2.1 - 4.504.2.3)
2. Annular spaces around pipes, electric cables, conduits or other openings in sole/bottom plates at exterior walls shall be protected against the passage of rodents by closing such openings with cement mortar, concrete masonry or similar methods. (CGBCSC 4.406.1) .
3. Provide Building Operations and Maintenance at the time of final inspection and placed in the building. (CGBCSC 4.410.1)
4. If Fireplace is installed, fireplaces shall be direct vent sealed combustion-type. Indicate on the plans the manufacturer name and model number. (CGBCSC 4.503.1)
5. At the time of rough installation, or during storage on the construction site and until final startup of the heating, cooling and ventilating equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheet metal, or other acceptable methods to reduce the amount of water, dust and debris that may enter the system. (CGBCSC 4.504.1)
6. Building materials with visible signs of water damage shall not be installed. Wall and floor framing shall not be enclosed when the framing members exceed 19% moisture content. Insulation products that are visibly wet or have high moisture content shall be replaced or allowed to dry prior to enclosure in wall or floor cavities. (CGBCSC 4.505.3)
7. All mechanical exhaust fans in rooms with a bathtub or shower shall comply with the following:
a.Fans shall be ENERGY STAR compliant and be ducted to terminate outside the building.
b.Fans must be controlled by a humidity control capable of adjustment between relative humidity ranges of ≤50% to a maximum of 80% unless functioning as a component of a whole house ventilation system. (CGBCSC 4.506.1)
8. Verification of compliance with these sections must be provided at the time of final inspection and shall be documented on the Building Operations and Maintenance Manual.
a.Adhesives, sealants and caulks shall meet or exceed the standards outlined in Section 4.504.2.1 and comply with the VOC limits in Tables 4.504.1 and 4.504.2 as applicable. (CGBCSC 4.504.2.1)
b.Paints and coatings shall meet or exceed the standards outlined in Section CGBCSC 4.504.2.2 and comply with the VOC limits in Table 4.504.3. (CGBCSC 4.504.2.2)
c.Aerosol paints and coatings shall meet or exceed the standards outlined in Section 4.504.2.3. (CGBCSC 4.504.2.3)
d.All carpet installed in the building interior shall meet the testing and product requirements of one of the following:
d.1. Carpet and Rug Institute's Green Label Plus Program OR
d.2. California Department of Public Health Standard Method for the testing of VOC Emissions (Spec 01350) OR
d.3. NSF/ANSI 140 at the Gold Level OR
d.4. Scientific Certifications Systems Indoor Advantage Gold (CGBCSC 4.504.3)
e.All carpet cushion installed in the building interior shall meet the requirements of the Carpet and Rug Institute Green Label Program. Carpet adhesives shall not exceed a VOC limit of 50 g/L. (CGBCSC 4.504.3.1, 4.504.3.2)
f.A minimum of 80% of floor area requiring resilient flooring shall comply with one or more of the following:
f.1. VOC emission limits defined in the CHPS High Performance Products Database OR
f.2. Products compliant with CHPS criteria certified under the Greenguard Children & Schools program OR
f.3. Certification under the RFQI FloorScore Program OR
f.4. Meet the California Department of Public Health Standard Method for the Testing of VOC Emissions. (CGBCSC 405.4.4)
g.Composite wood products (hardwood plywood, particleboard and MDF) installed on the interior or exterior of the building shall meet or exceed the standards outlined in Table 4.504.5. Verification of compliance with these sections must be provided at the time of inspection. (CGBCSC 4.504.5)

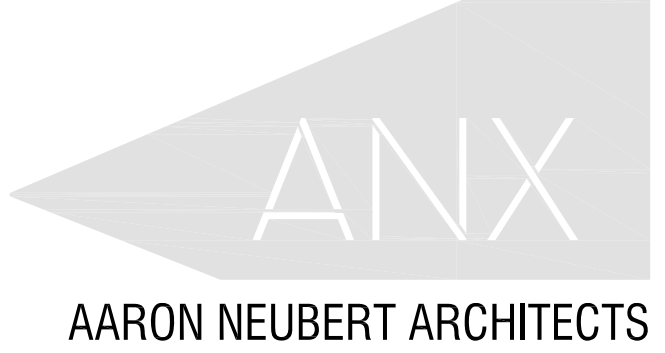
Glazing:

1. All glass and glazing shall comply with applicable codes and must be labeled safety glazing at hazardous locations defined as: glazing at all doors, bath & shower enclosures, glazing within a 24" arc of a door edge, panels over (9) square feet with the lowest edge less than 18" a.f.f. and having a top edge greater than 36" a.f.f., glazing located within 5'-0" from top or bottom of stairway with bottom edge less than 60" a.f.f.
2. All exterior glazing shall be dual-glazed unless otherwise noted.
3. Unit Skylights shall be tested and approved by an approved independent laboratory, and bear a label identifying manufacturer, performance grade rating and approved inspection agency to indicate compliance with the requirements of AAMA/WDMA/CSA010/L.S.2/A440. (R 308.6)
4. Skylights and sloped glazing shall comply with section (R 308.6)
5. Every space intended for human occupancy shall be provided with natural light by means of exterior glazed openings in accordance with Section R 303.1 or shall be provided with artificial light that is adequate to provide an average illumination of 6 foot-candles over the area of the room at a height of 30 inches above the floor level. (R 303.1)
6. Glazing in the following locations shall be safety glazing conforming to the human impact loads of Section R 308.3 (see exceptions) (R 308.4).
a. Fixed and operable panels of swinging, sliding and bi-fold door assemblies.
b. Glazing in an individual fixed or operable panel adjacent to a door where the nearest vertical edge is within a 24-inch arc of either vertical edge of the door in a closed position and whose bottom edge is less than 60 inches above the floor or walking surface.
c. Glazing in an individual fixed or operable panel that meets all of the following conditions:
1.) Exposed area of an individual pane greater than 9 square feet.
2.) Bottom edge less than 18 inches above the floor.
3.) Top edge greater than 36 inches above the floor.
4.) One or more walking surfaces within 36 inches horizontality of the glazing.
d. Glazing in railings.
e. Glazing in enclosures for or walls facing hot tubs, whirlpools, saunas, steam rooms, bathtubs and showers where the bottom edge of the glazing is less than 60 inches measured vertically above any standing or walking surface.
f. Glazing in walls and fence adjacent to indoor and outdoor swimming pools, hot tubs and spas where the bottom edge of the glazing is less than 60 inches above a walking surface and within 60 inches, measured horizontally and in a straight line, of the water's edge.
g. Glazing where the bottom exposed edge of the glazing is less than 36 inches above the plane of the adjacent walking surface of stairways, landings between flights of stairs and ramps.
h. Glazing adjacent to the landing at the bottom of a stairway where the glazing is less than 36 inches above the landing and within 60 inches horizontally of the bottom tread.

Green Building Standards:

1. Provide certification for the following CALGreen components. Documentation shall be required prior to City inspections as noted below:
a) Indoor Water Use (*final inspection*)
b) Moisture Content of Building Materials by *Third Party Special Inspector* (Insulation inspection)
c) Adhesive and Sealant VOC (*final inspection*)
d) Paints and Coatings VOC Limits (*final inspection*)
e) Composite Wood Products (*frame inspection*)
f) Carpet and Flooring Certification (*final inspection*)
2. Plumbing fixtures and fixture fittings shall conform to section 4.303.1 for water conserving indoor water use:
a) Water Closets shall not exceed 1.28 gallons per flush
b) Showerheads:
• Single head not more than 1.8 gal/min at 80 psi
• Multiple heads serving one shower shall have a combined rate not to exceed 1.8 gal/min at 80 psi.
c) Lavatory Faucets shall have a minimum flow rate not to exceed 0.8 gal/min at 20 psi and a maximum of 1.2 gal/min at 60 psi.
d) Kitchen Faucets shall have a maximum flow rate not to exceed 1.8 gal/min at 60 psi.
-*Exception: Kitchen faucets may temporarily increase the flow rate above the maximum, but not to exceed 2.2 gal/min at 60 psi maximum, but not to exceed 2.2 gal/min at 60 psi and must default back to the 1.8 gal/min*
3. Annular spaces around pipes, electrical cables, conduits, or other openings in sole/bottom at exterior walls shall be protected against the passage of rodents by closing such openings with cement mortar, concrete masonry or similar method approved by the enforcing agency.
(CALGreen 4.406.1)
4. Wall and floor framing members shall not be enclosed when moisture content exceeds 19%. Documentation shall be provided at the time of insulation inspection, certifying moisture content of framing members, following the procedures outlined in CALGreen 4.505.3.
5. Insulation products which are visibly wet or have high moisture content shall be replaced or allowed to dry per the manufacturer's drying recommendations, prior to enclosure of wall and floor cavities. (CALGreen 4.505.3)
6. Bathroom exhaust fans that are not a component of the whole house ventilation system must be capable of adjustment between a relative humidity range ≤50 percent to a maximum of 80 percent. (CALGreen 4.506.1)(R303.3.1)

1



ADU PROGRAM

OWNER:

CITY OF FRESNO
PLANNING AND DEVELOPMENT DEPARTMENT
2009 FRESNO STREET, 3RD FLOOR
FRESNO, CA 93721

ARCHITECT:

AARON NEUBERT ARCHITECTS, INC.
2814 ROWENA AVENUE, SUITE ONE
LOS ANGELES, CALIFORNIA 90009
P. 323.953.4700 F. 323.953.4900
AARON NEUBERT CAP C-9005

STRUCTURAL ENGINEER:

INNOUS ENGINEERING, INC.
600 WILSHIRE BOULEVARD, SUITE 700
LOS ANGELES, CALIFORNIA 90017
P. 313.827.6867

MEP ENGINEER:

INNODEZ DESIGN AND ENGINEERING
726 FORBROUGH PLACE
PLEASANTON, CALIFORNIA 94566
P. 924.414.0097

REVISION:

DATE:

COMMENT:

ISSUE:

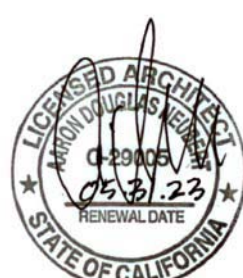
2

REVISION #2 06.03.22 PLAN CHECK CORRECTIONS

1

REVISION #1 04.04.22 PLAN CHECK CORRECTIONS

SEAL:



Project No. 2104

ADU PROGRAM
CITY OF FRESNO
CALIFORNIA

DRAWING TITLE:

GENERAL NOTES

DATE: JUNE 3, 2022

SCALE: AS NOTED

DRAWN BY:

ADU PROGRAM

OWNER:

CITY OF FRESNO
PLANNING AND DEVELOPMENT DEPARTMENT
2000 FRESNO STREET, 3RD FLOOR
FRESNO, CA 93721

ARCHITECT:

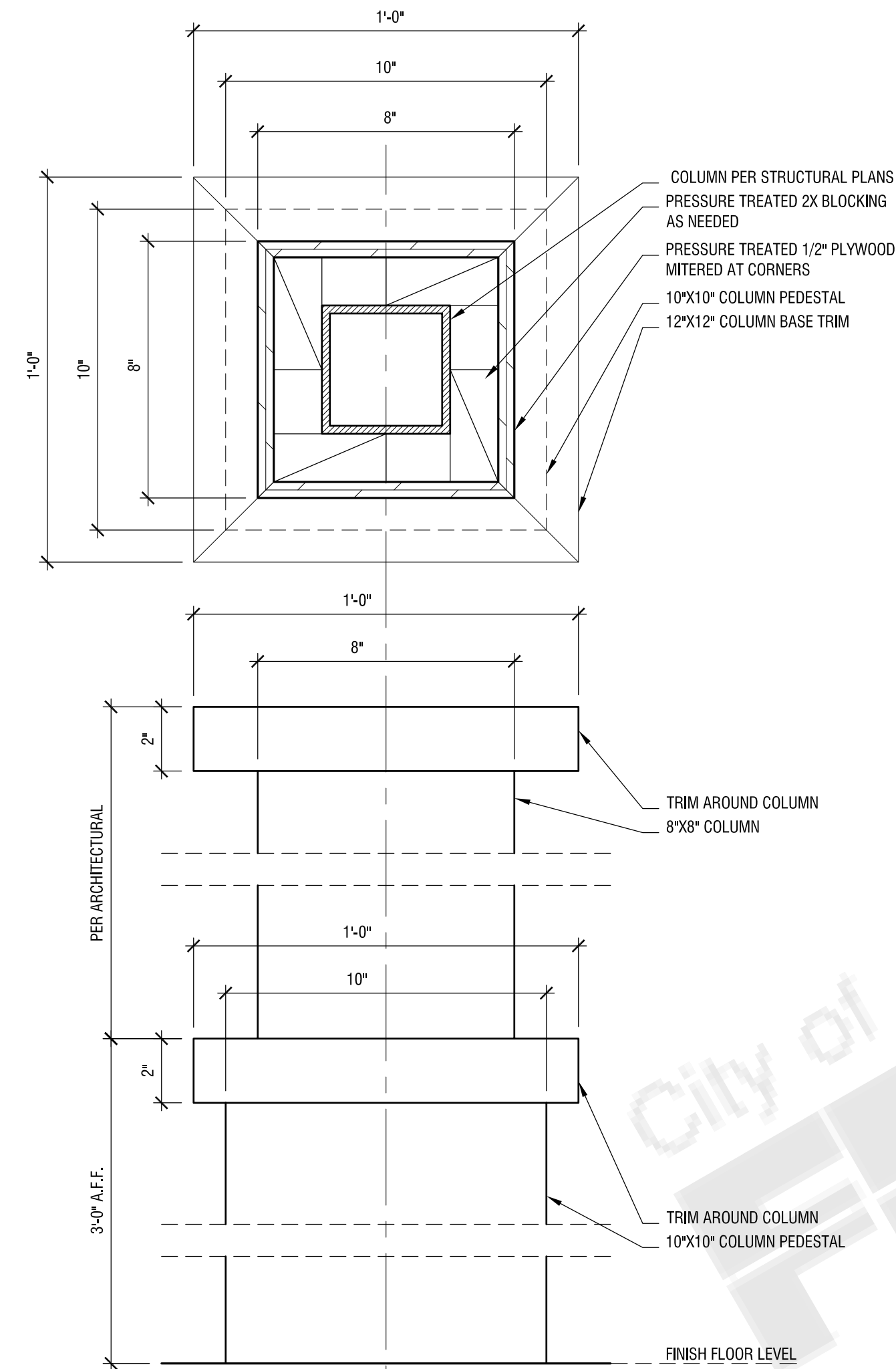
AARON NEUBERT ARCHITECTS, INC.
2814 ROWENA AVENUE, SUITE ONE
LOS ANGELES, CALIFORNIA 90039
P. 323.953.4700 F. 323.953.4900
AARON NEUBERT C.A.# C-29005

STRUCTURAL ENGINEER:

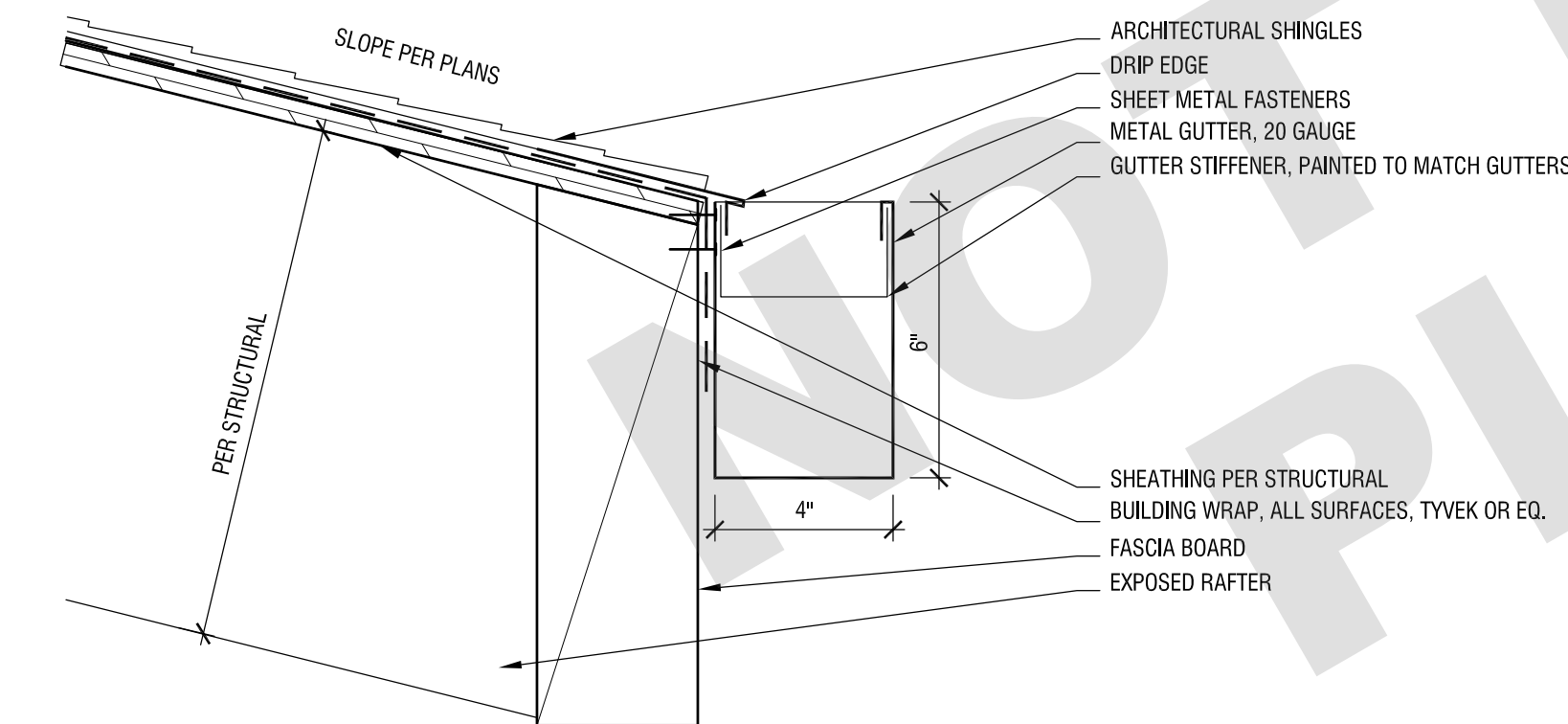
NOUS ENGINEERING, INC.
600 WILSHIRE BOULEVARD, SUITE 700
LOS ANGELES, CALIFORNIA 90017
P. 313.927.6857

MEP ENGINEER:

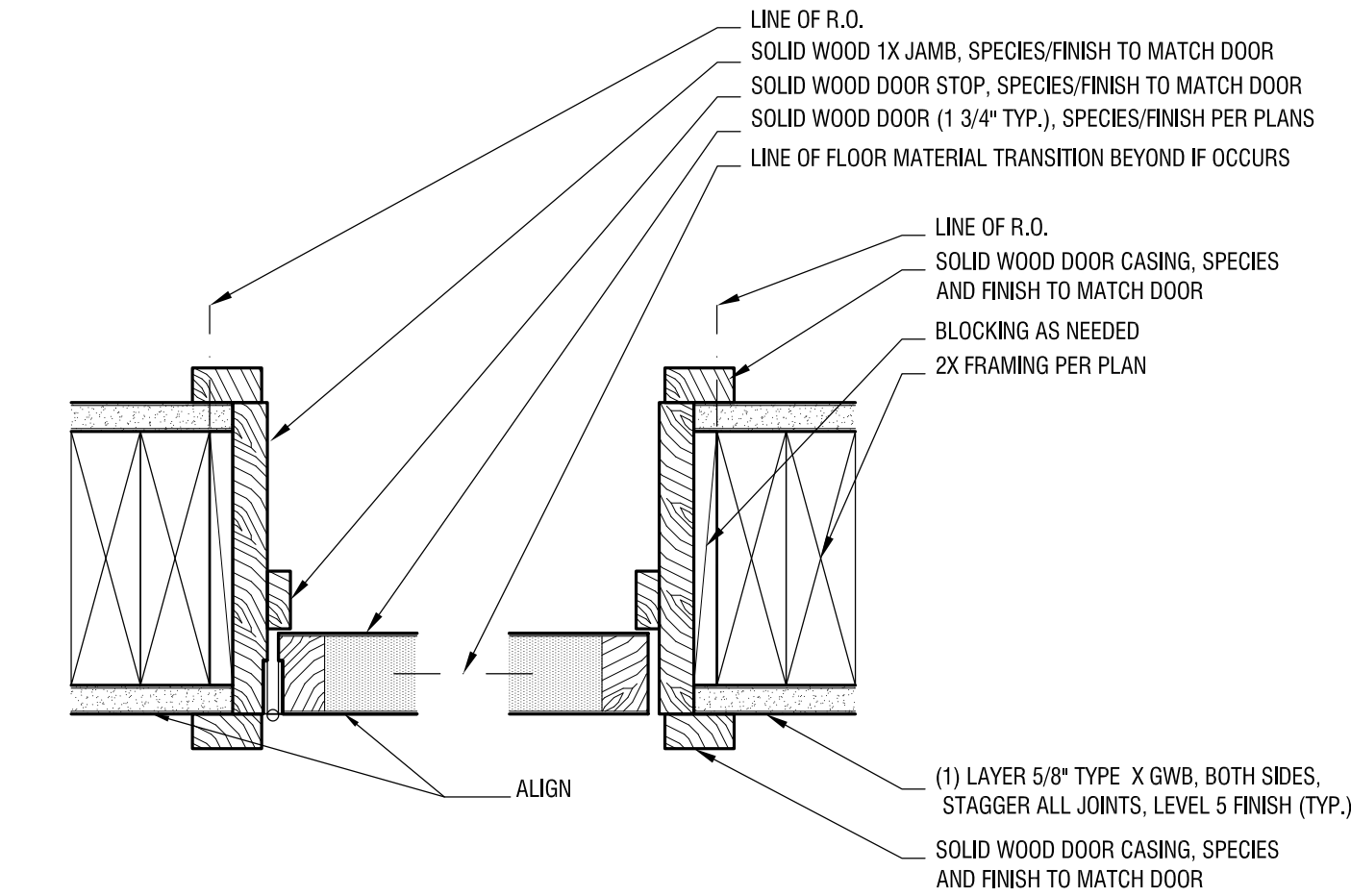
INNODEZ DESIGN AND ENGINEERING
726 FORBROUGH PLACE
PLEASANTON, CALIFORNIA 94566
P. 424.414.0957



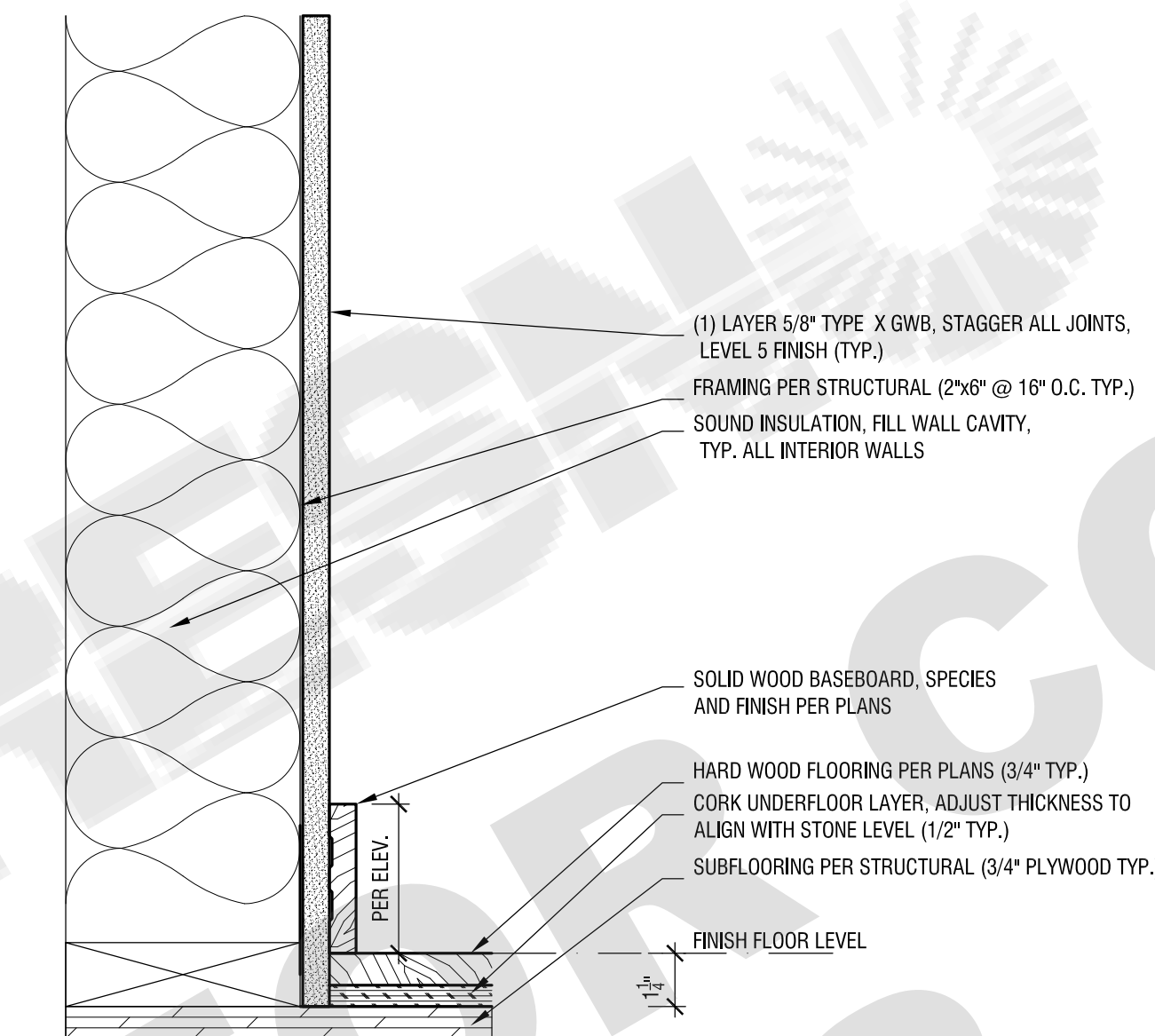
10 POST DETAIL
SCALE: 3"=1'-0"



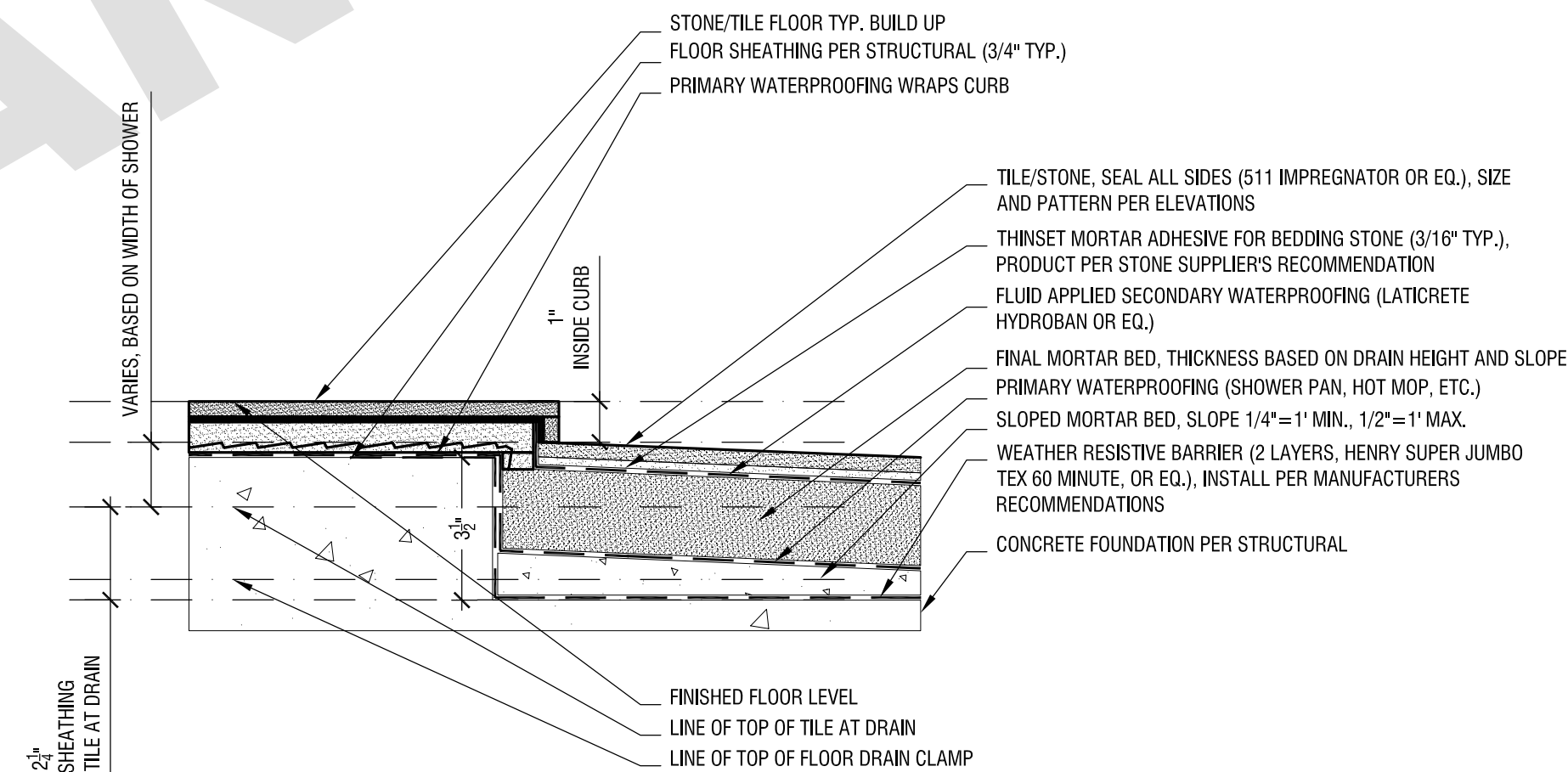
09 ROOF EAVE, SLOPED WITH GUTTER DETAIL
SCALE: 3"=1'-0"



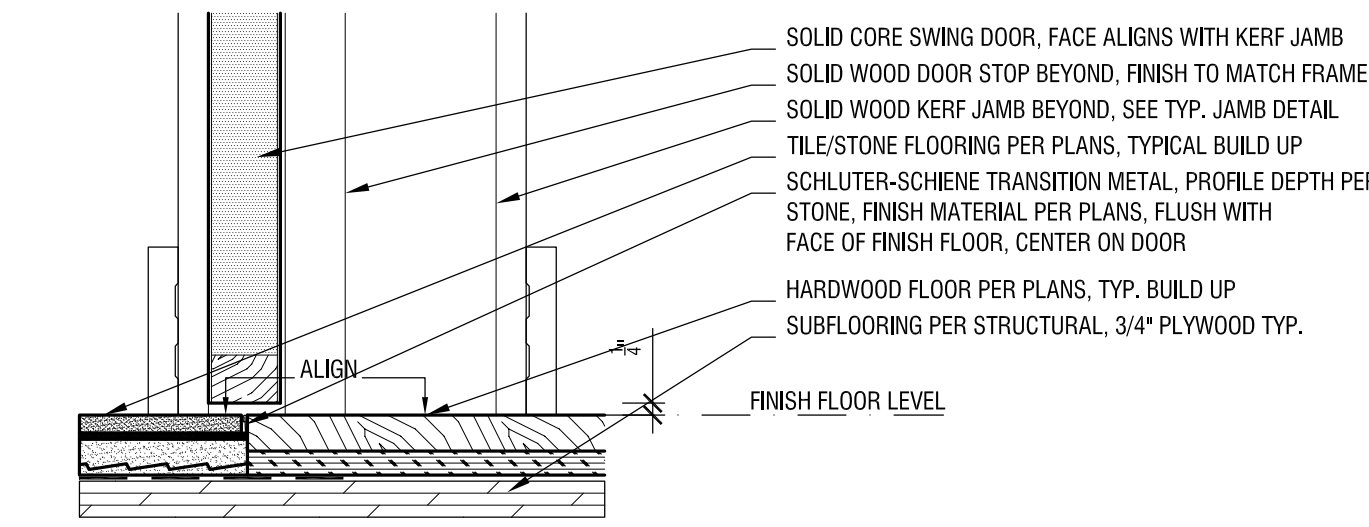
07 FRAMED DOOR JAMB DETAIL
SCALE: 3"=1'-0"



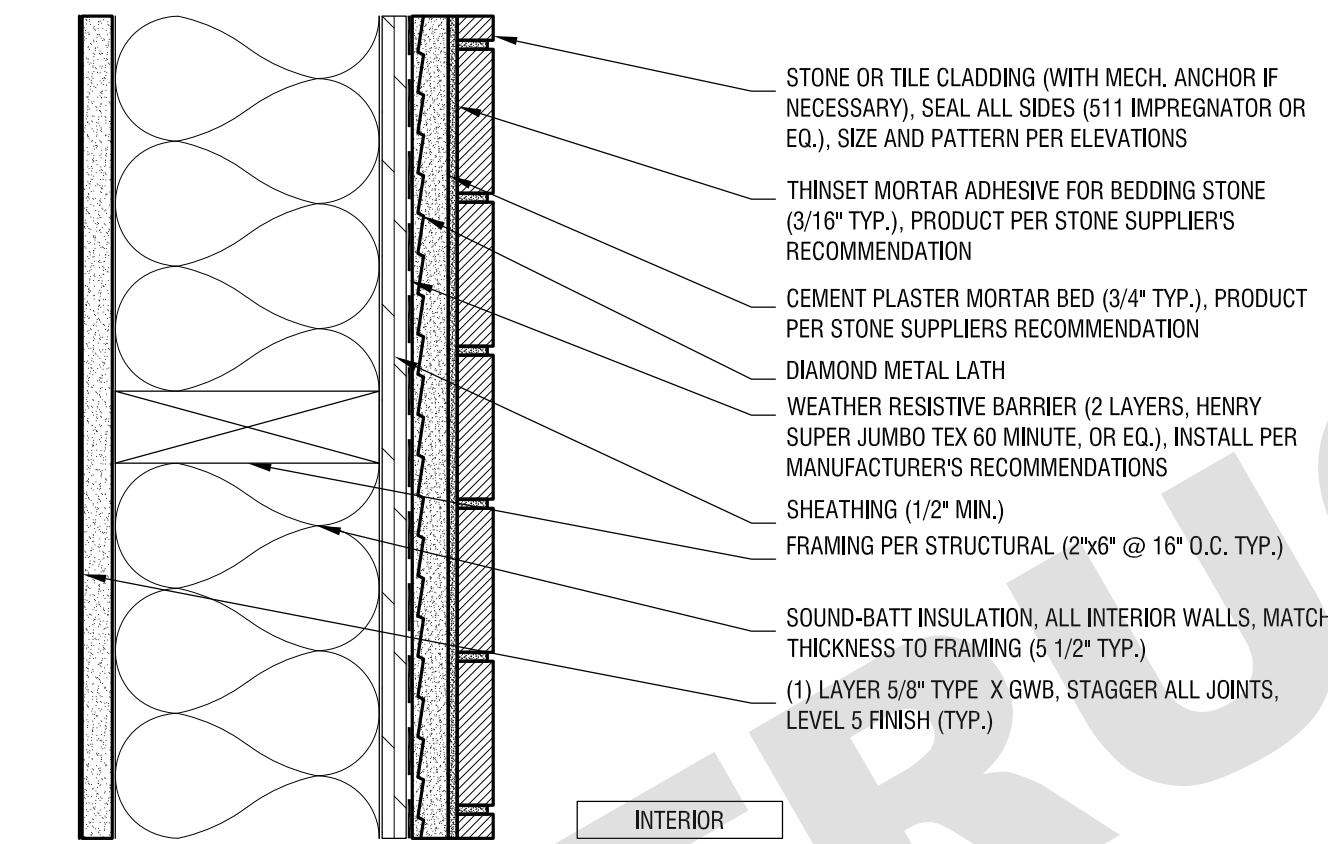
06 PROUD BASEBOARD DETAIL
SCALE: 3"=1'-0"



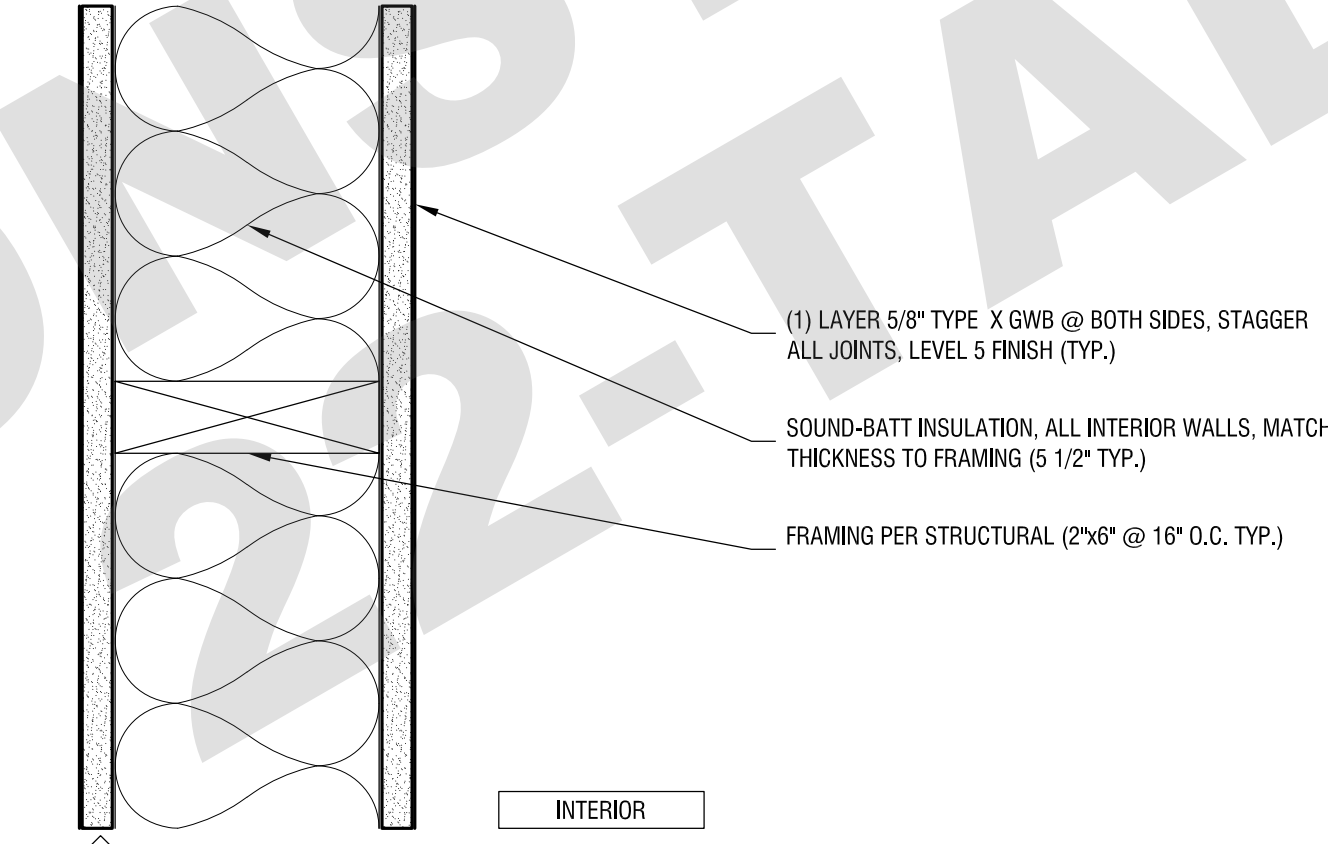
02 SHOWER DROPPED CURB DETAIL
SCALE: 3"=1'-0"



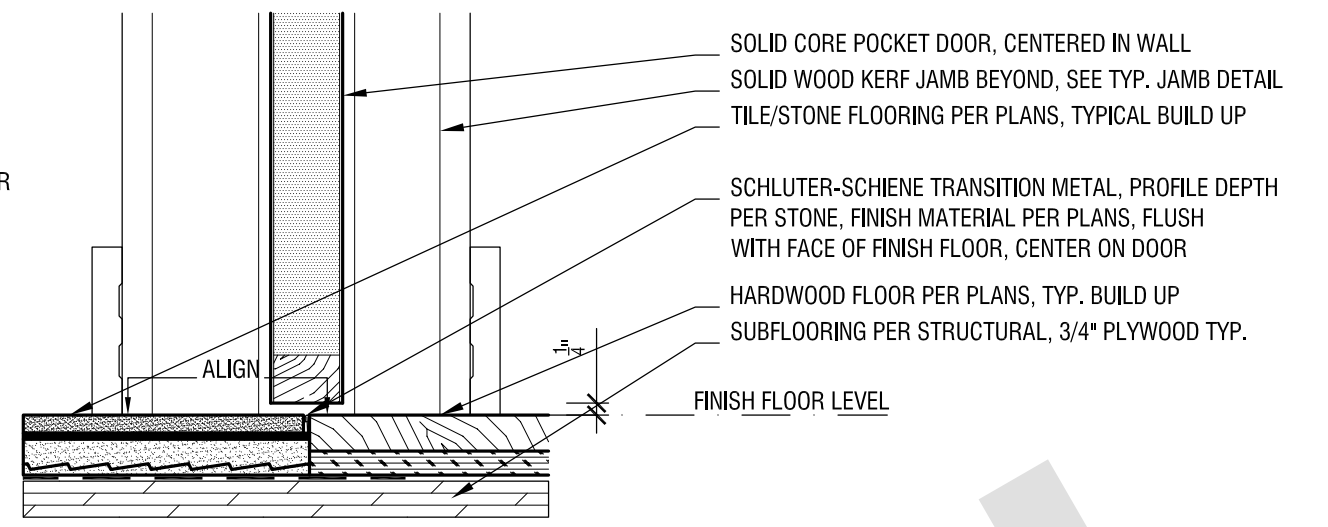
08 FLUSH FLOOR TRANSITION DETAIL AT DOOR
SCALE: 3"=1'-0"



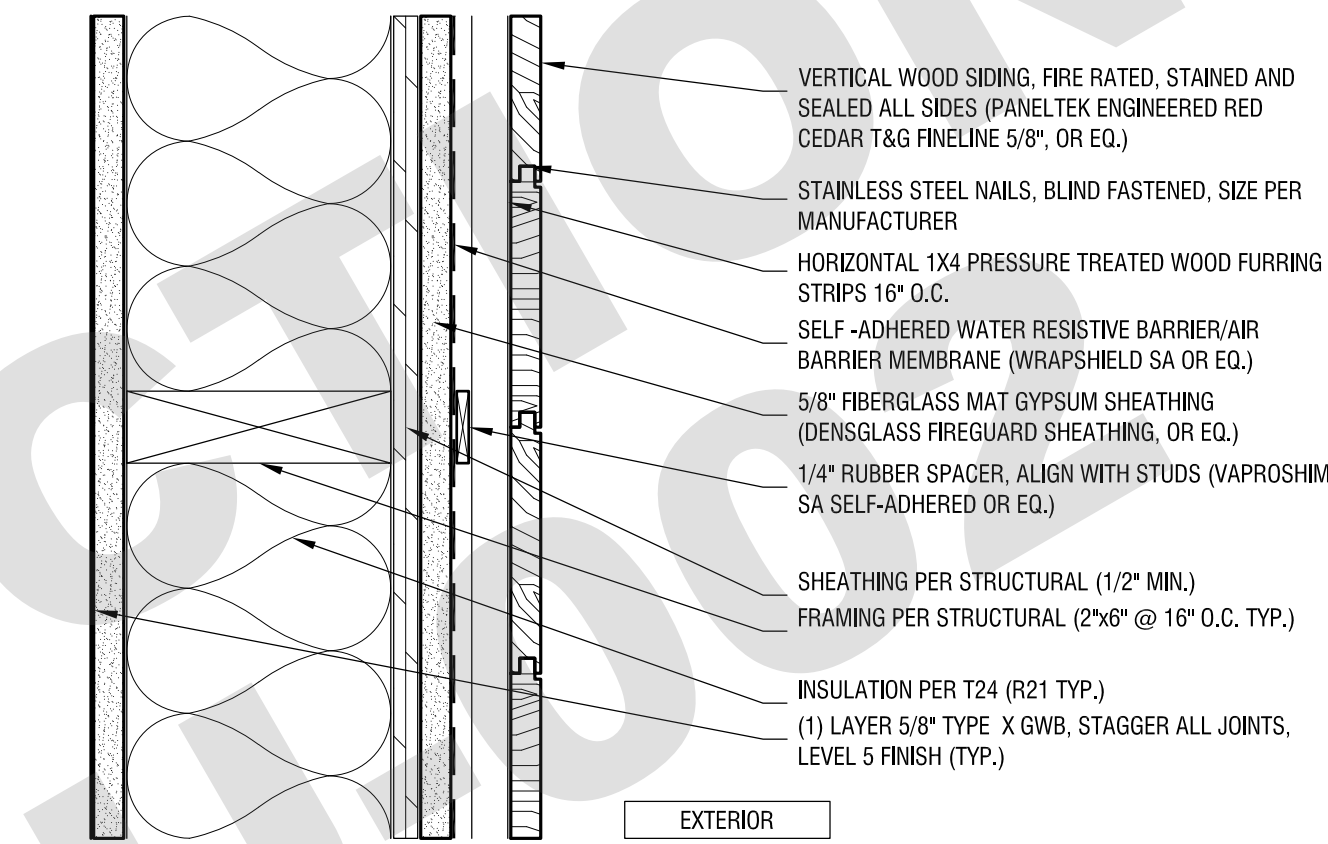
05 1 HR. FIRE RATED
INTERIOR PARTITION
SCALE: 3"=1'-0"



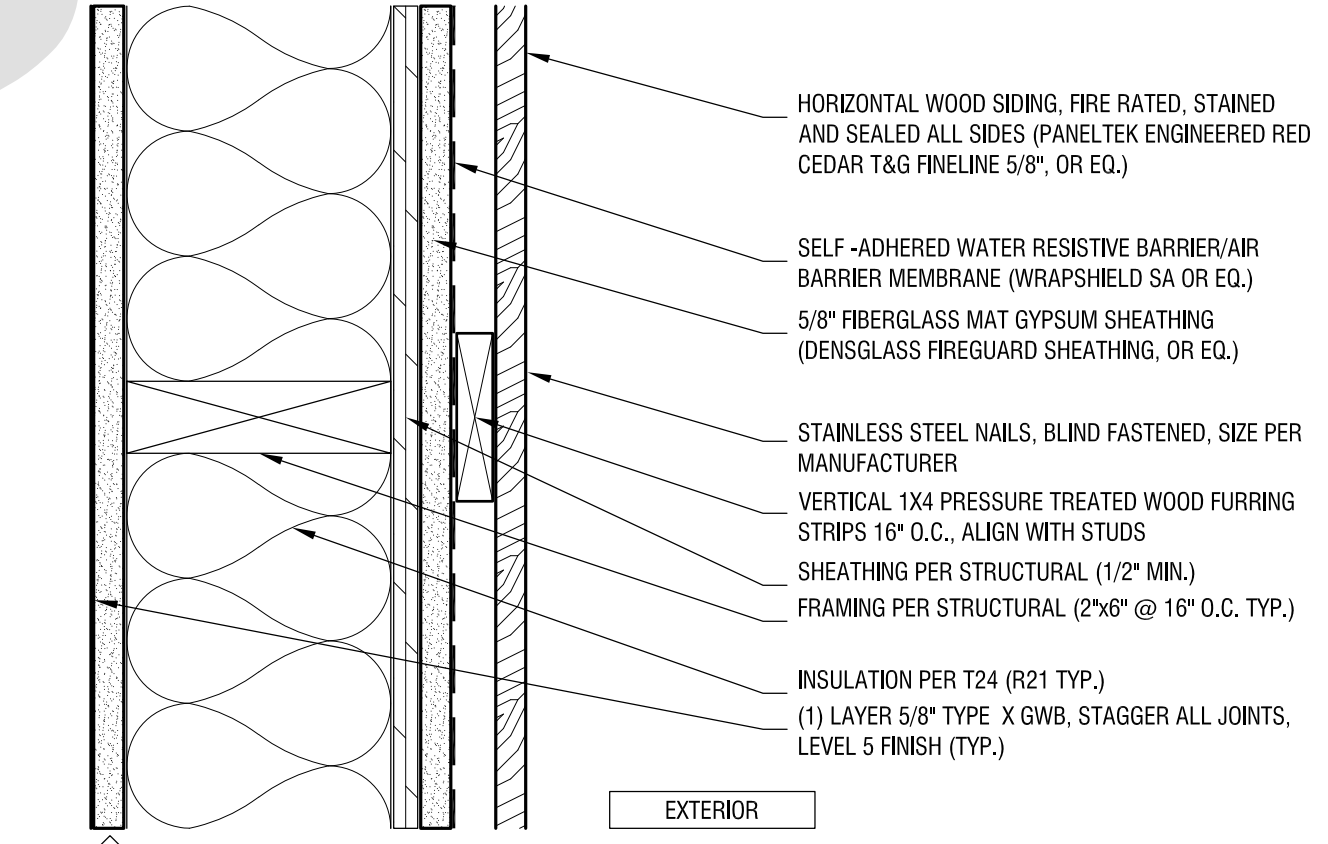
04 1 HR. FIRE RATED
INTERIOR PARTITION
SCALE: 3"=1'-0"



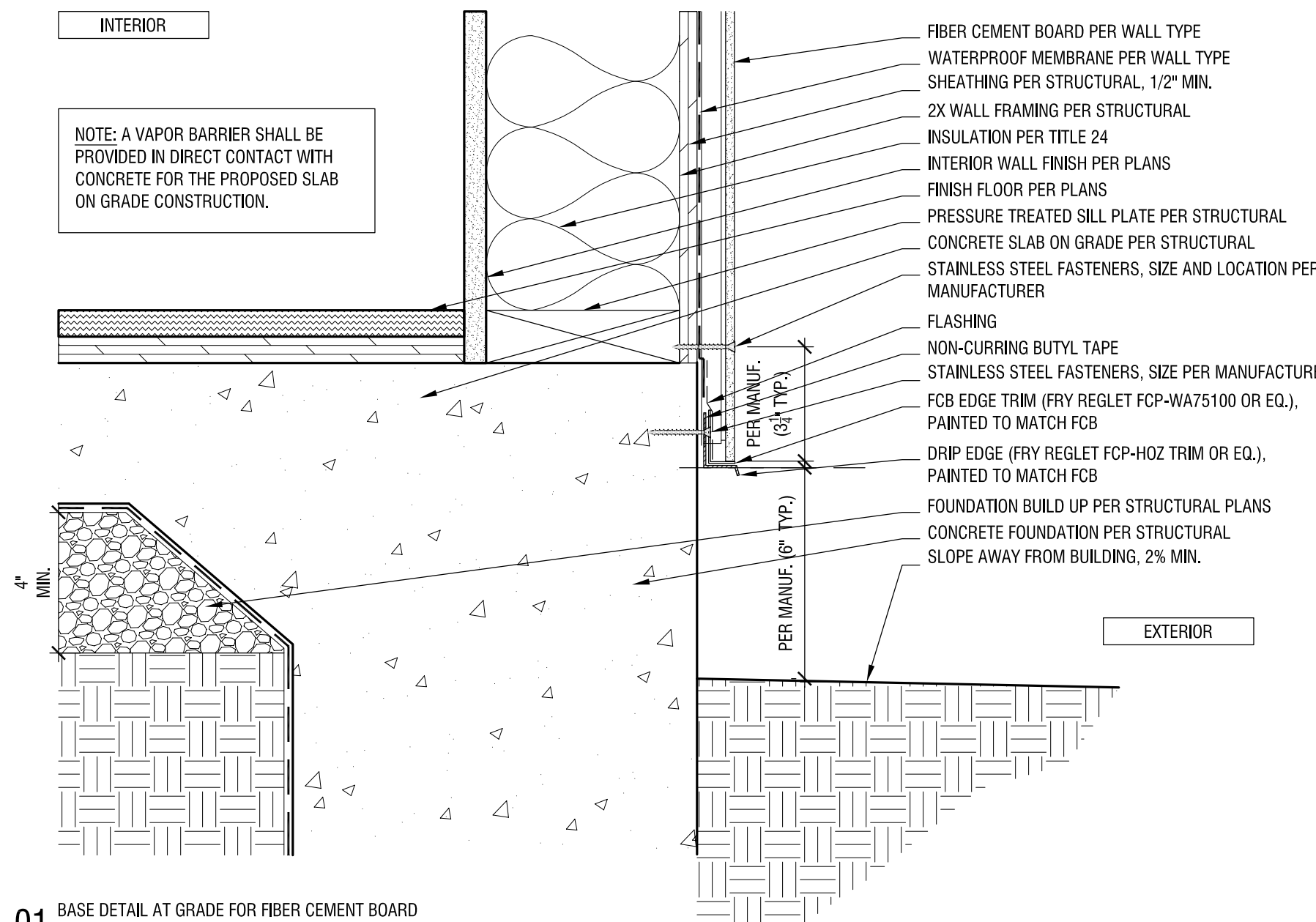
03A 1 HR. FIRE RATED
EXTERIOR WALL - TYPE 7
SCALE: 3"=1'-0"



03A 1 HR. FIRE RATED
EXTERIOR WALL - TYPE 7
SCALE: 3"=1'-0"



03 1 HR. FIRE RATED
EXTERIOR WALL - TYPE 8
SCALE: 3"=1'-0"



01 BASE DETAIL AT GRADE FOR FIBER CEMENT BOARD
SCALE: 3"=1'-0"

REVISION: DATE: COMMENT:

ISSUE:

2	REVISION #2 06.03.22	PLAN CHECK CORRECTIONS
1	REVISION #1 04.04.22	PLAN CHECK CORRECTIONS

SEAL:



Project No. 2104

ADU PROGRAM
CITY OF FRESNO
CALIFORNIA

DRAWING TITLE:

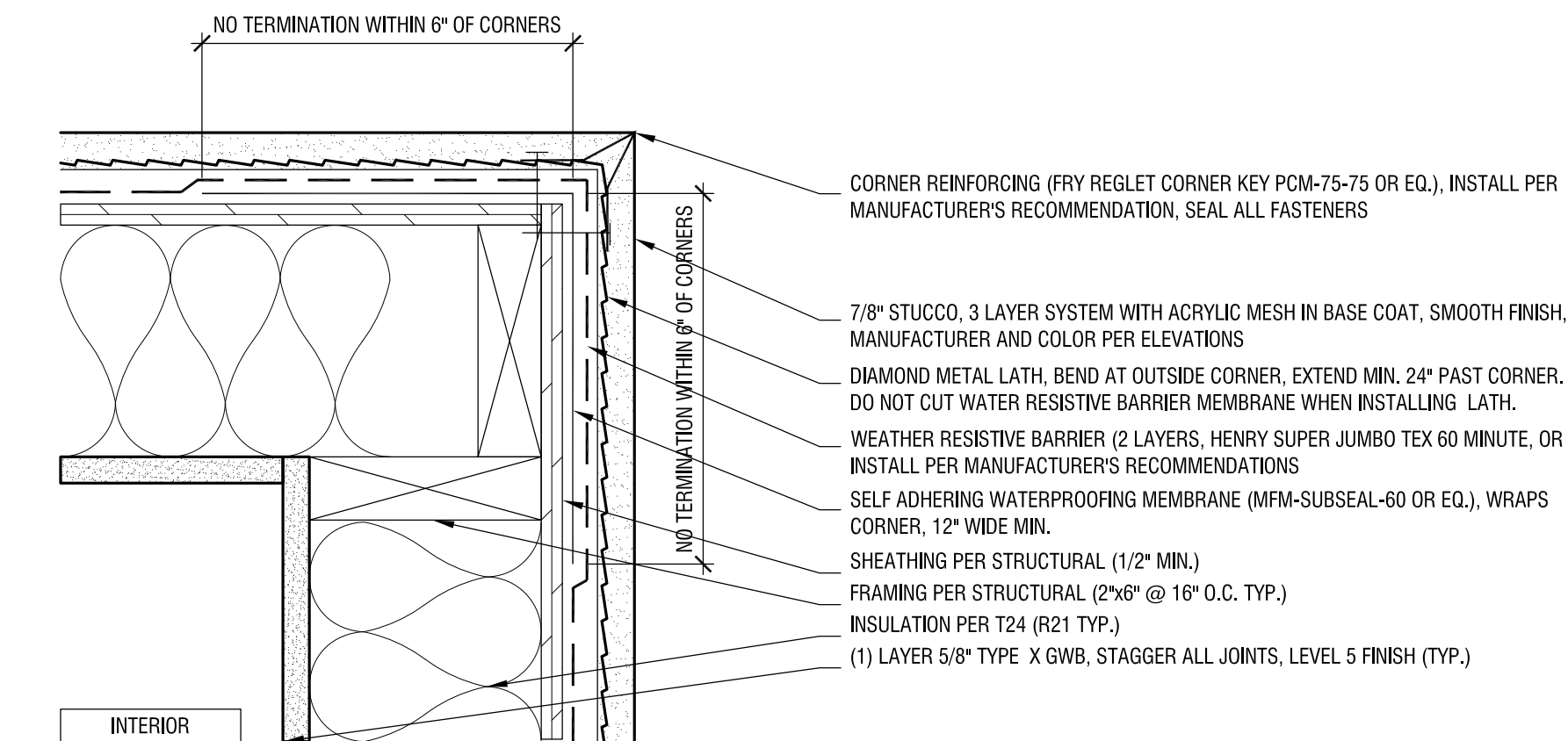
TYPICAL DETAIL
CRAFTSMAN

DATE: JUNE 3, 2022

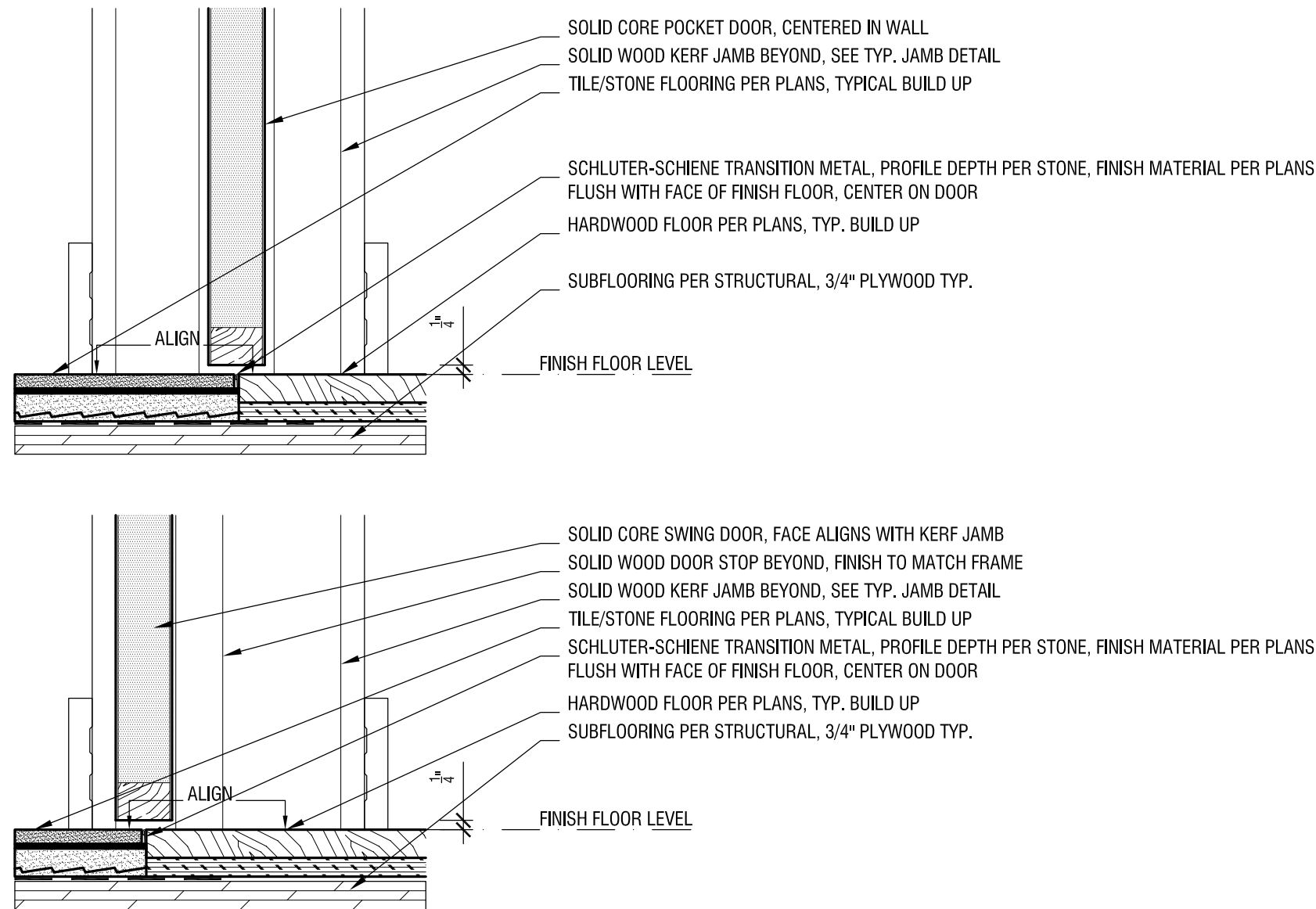
SCALE: 3"=1'-0"

DRAWN BY: ANX

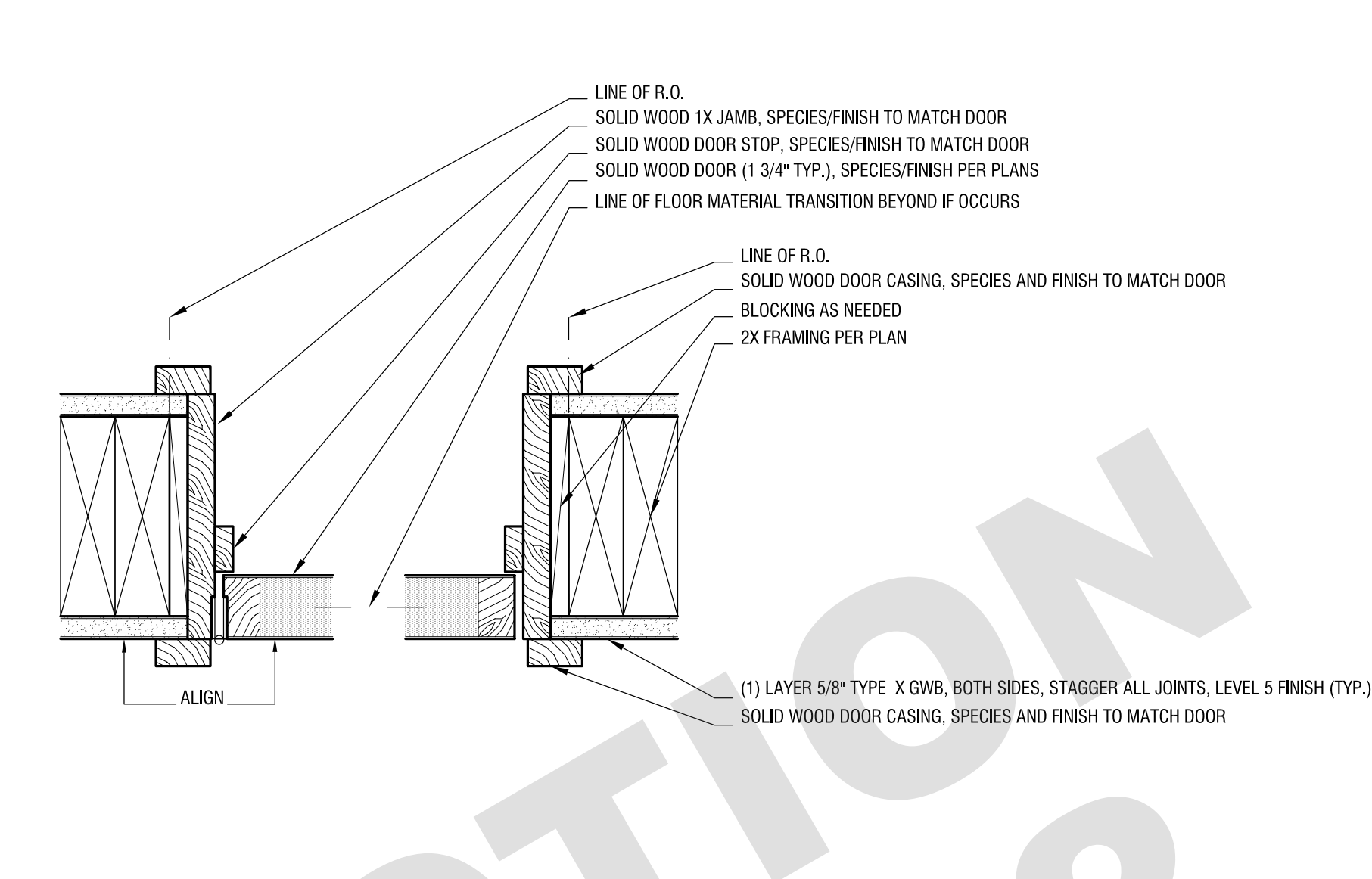
EXTERIOR



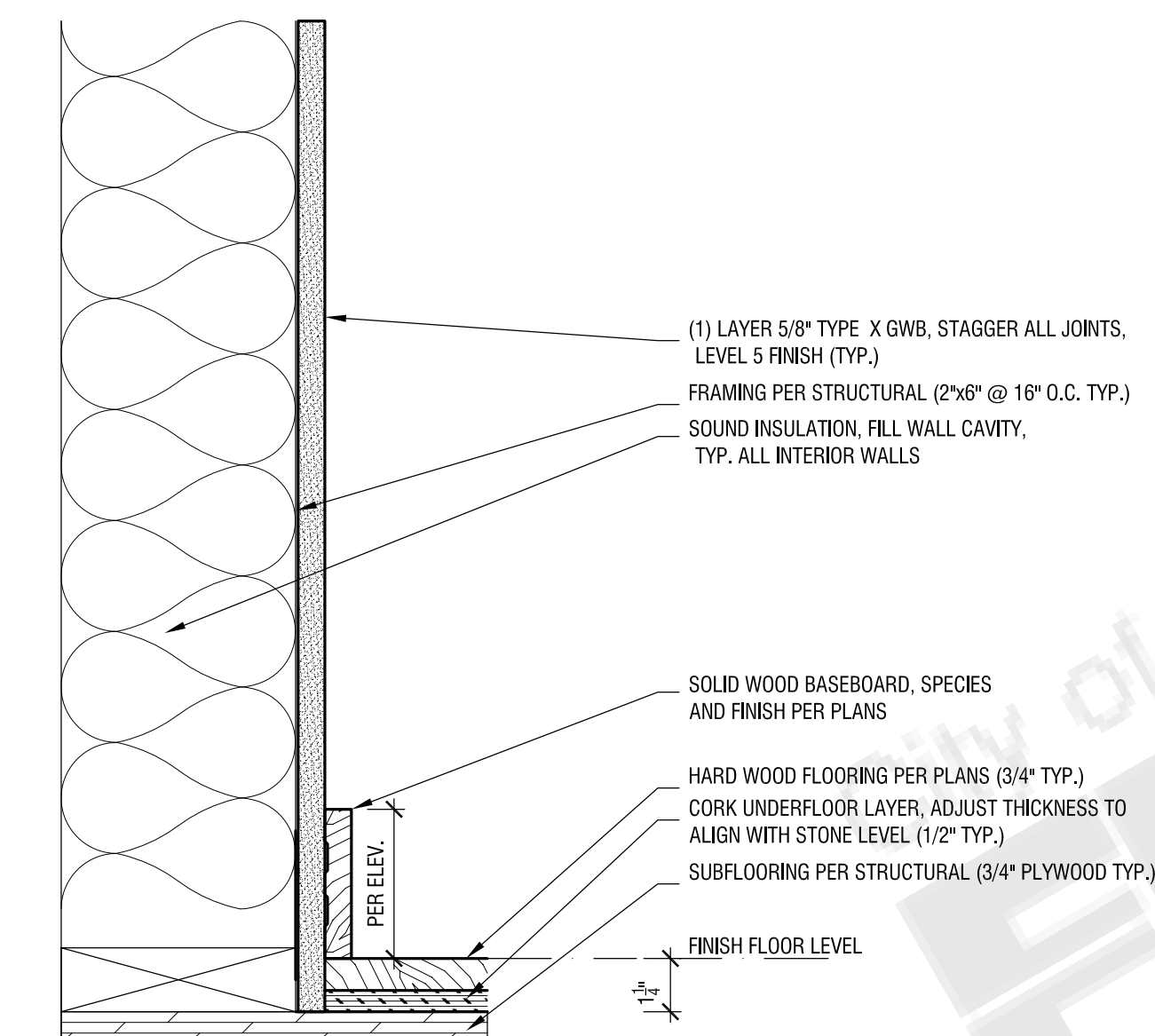
10 STUCCO PLAN DETAIL, OUTSIDE CORNER
SCALE: 3\"/>



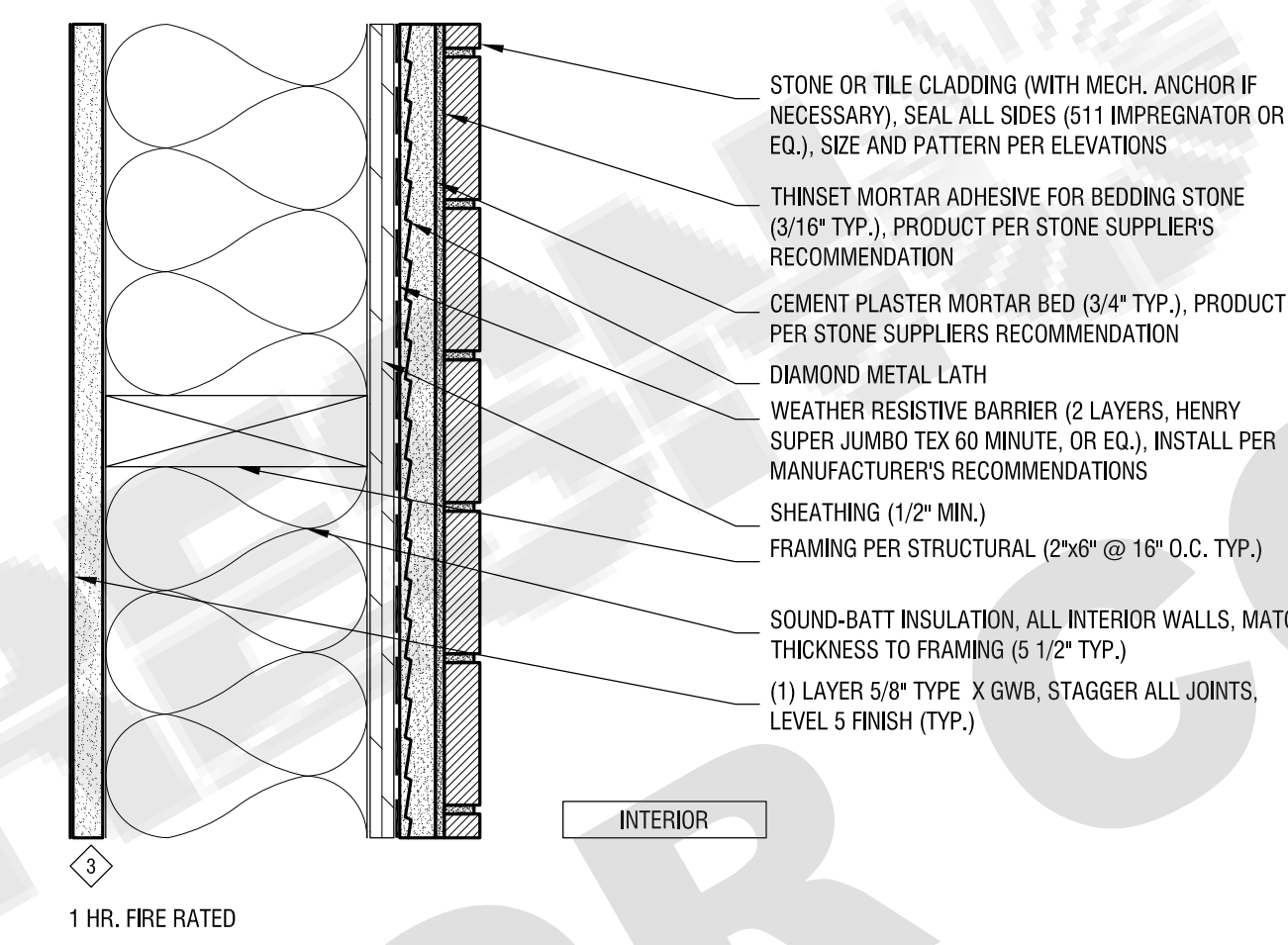
08 FLUSH FLOOR TRANSITION DETAIL AT DOOR
SCALE: 3\"/>



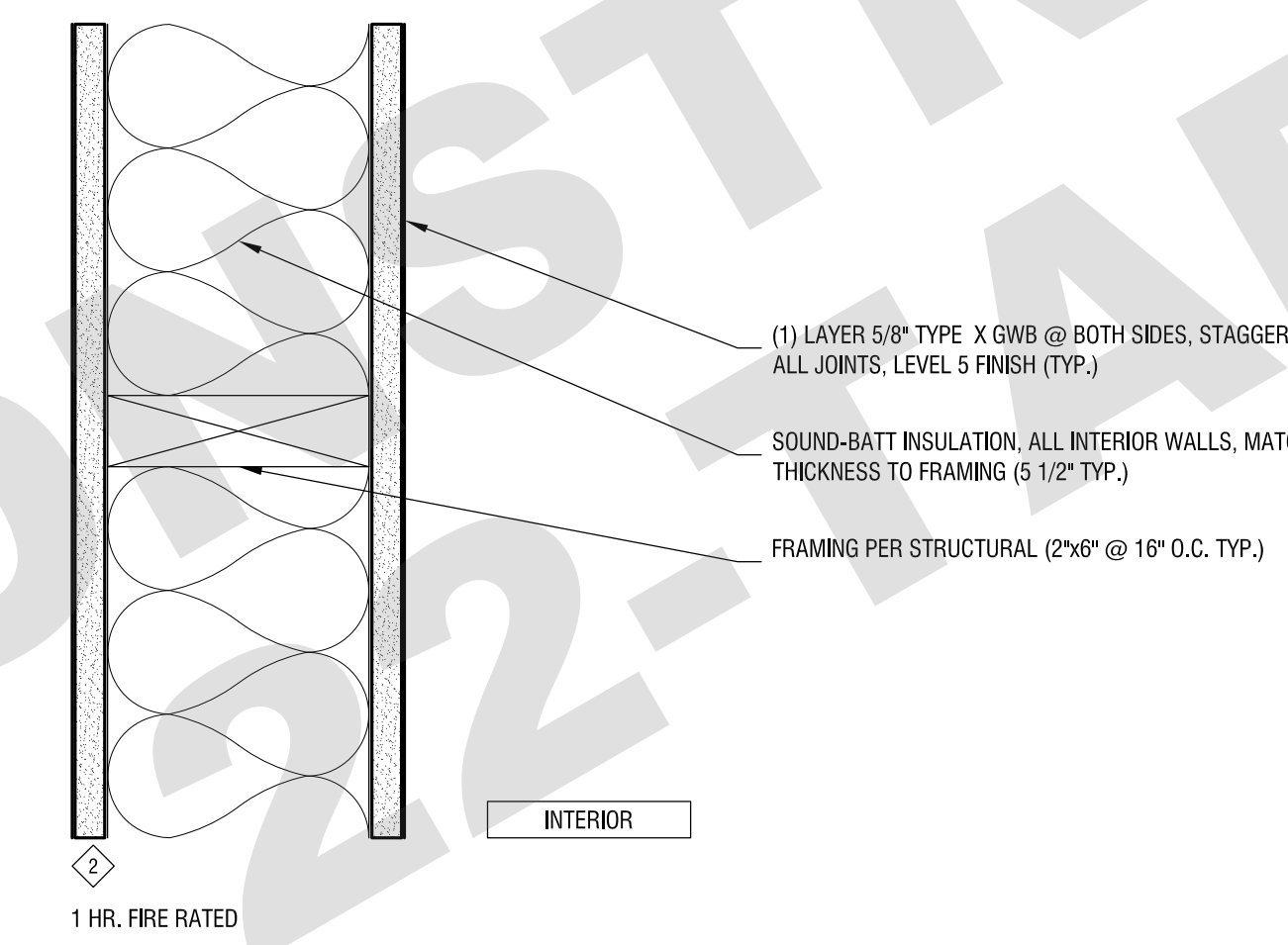
07 FRAMED DOOR JAMB DETAIL
SCALE: 3\"/>



06 PROUD BASEBOARD DETAIL
SCALE: 3\"/>

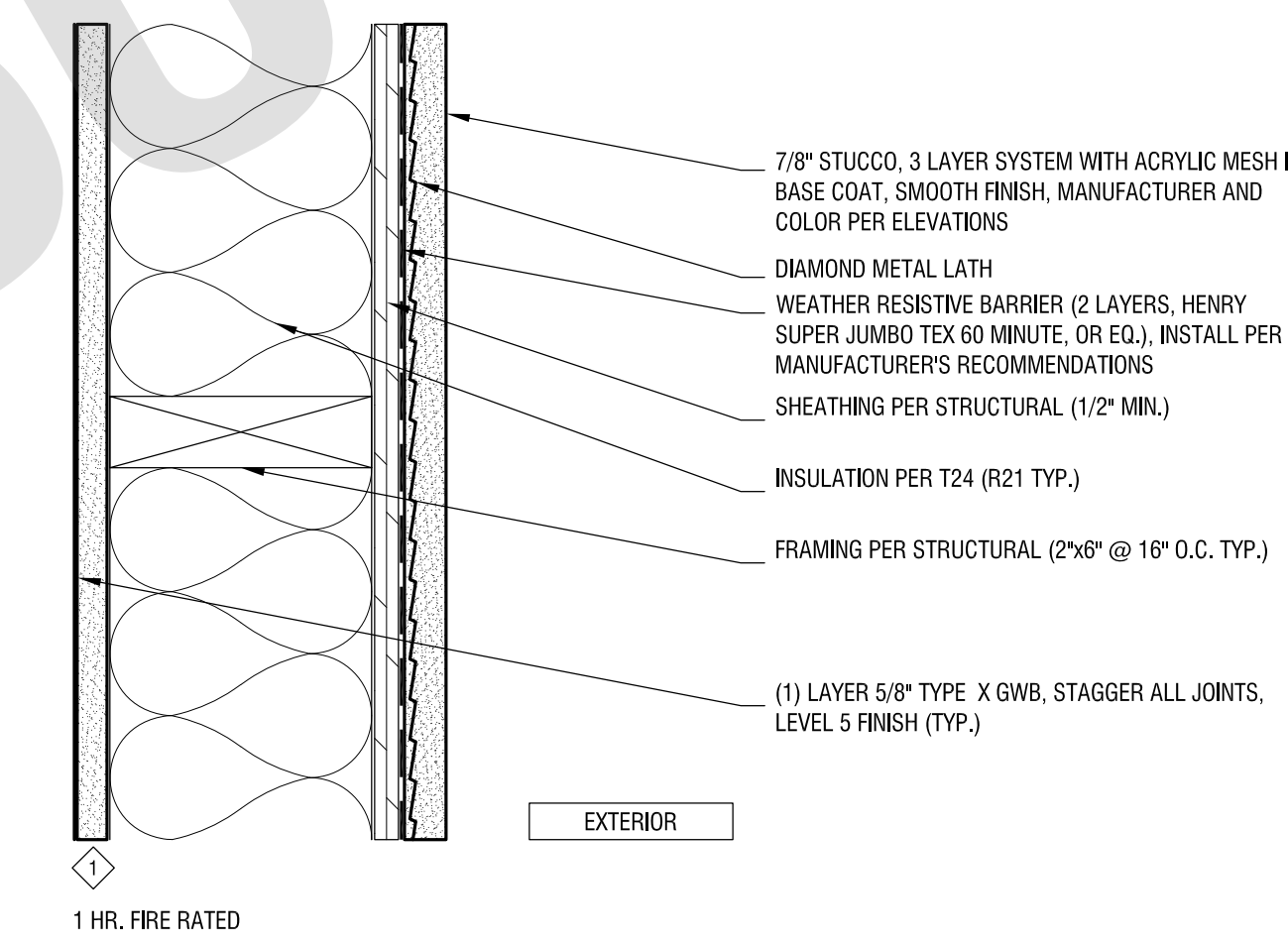


05 INTERIOR PARTITION
SCALE: 3\"/>

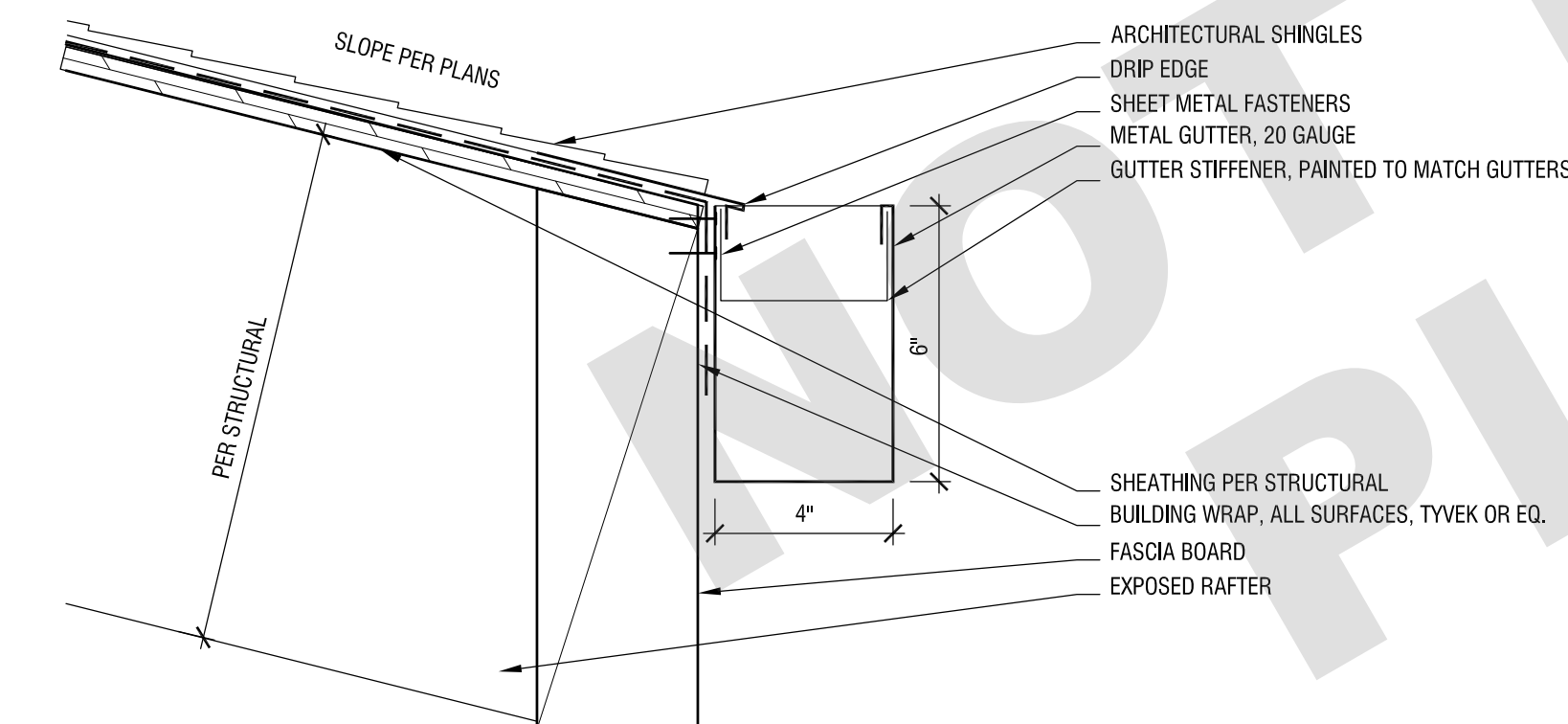


04 INTERIOR PARTITION
SCALE: 3\"/>

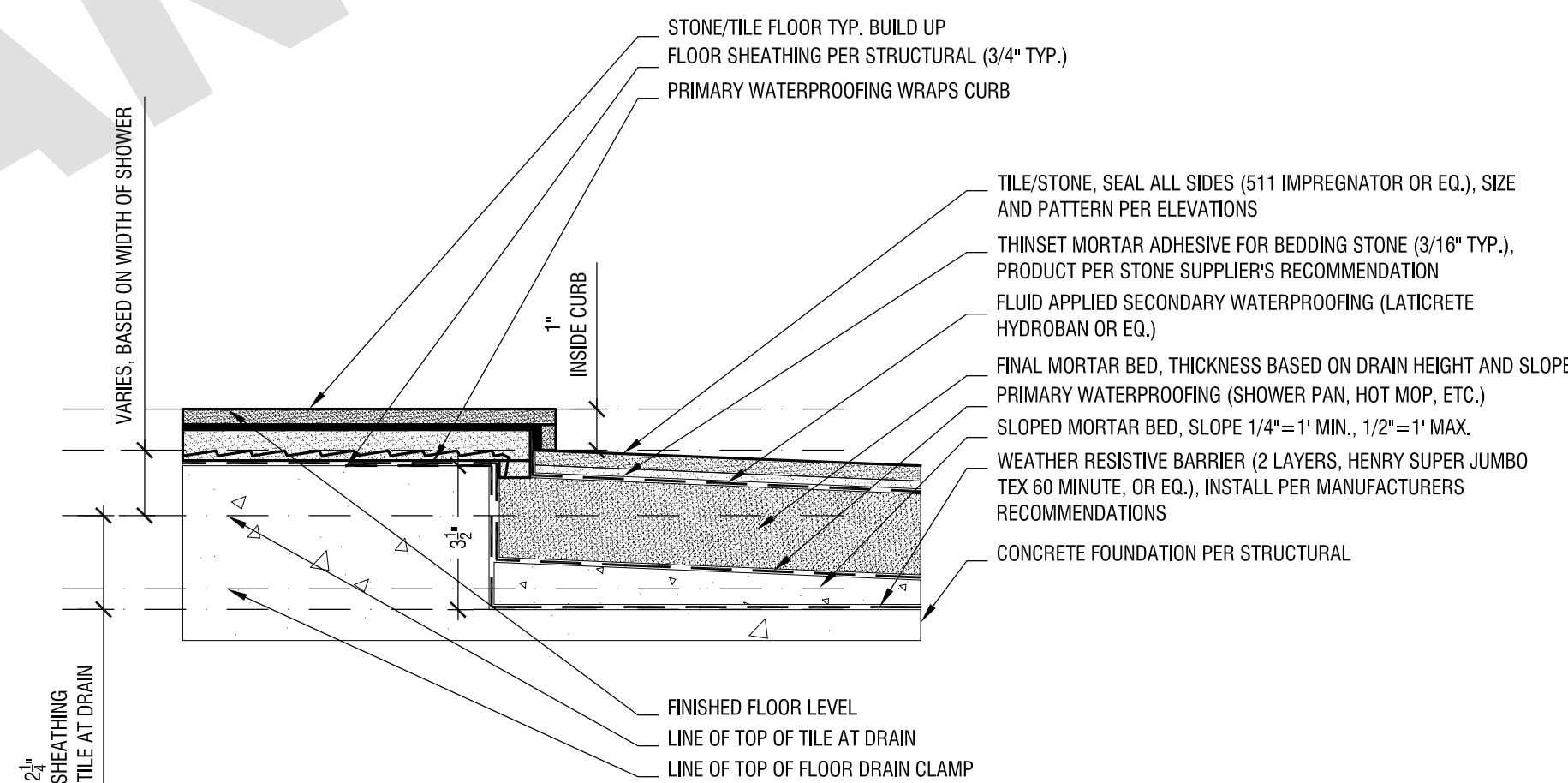
1 HR FIRE RATING NOTE: IF FIRE SEPARATION DISTANCE OF EXTERIOR WALL IS GREATER THAN 10', THEN EXTERIOR WALL OF TYPE V-8 DOES NOT HAVE TO BE FIRE RATED (DENSGLASS SHEATHING DOES NOT NEED TO BE INSTALLED).



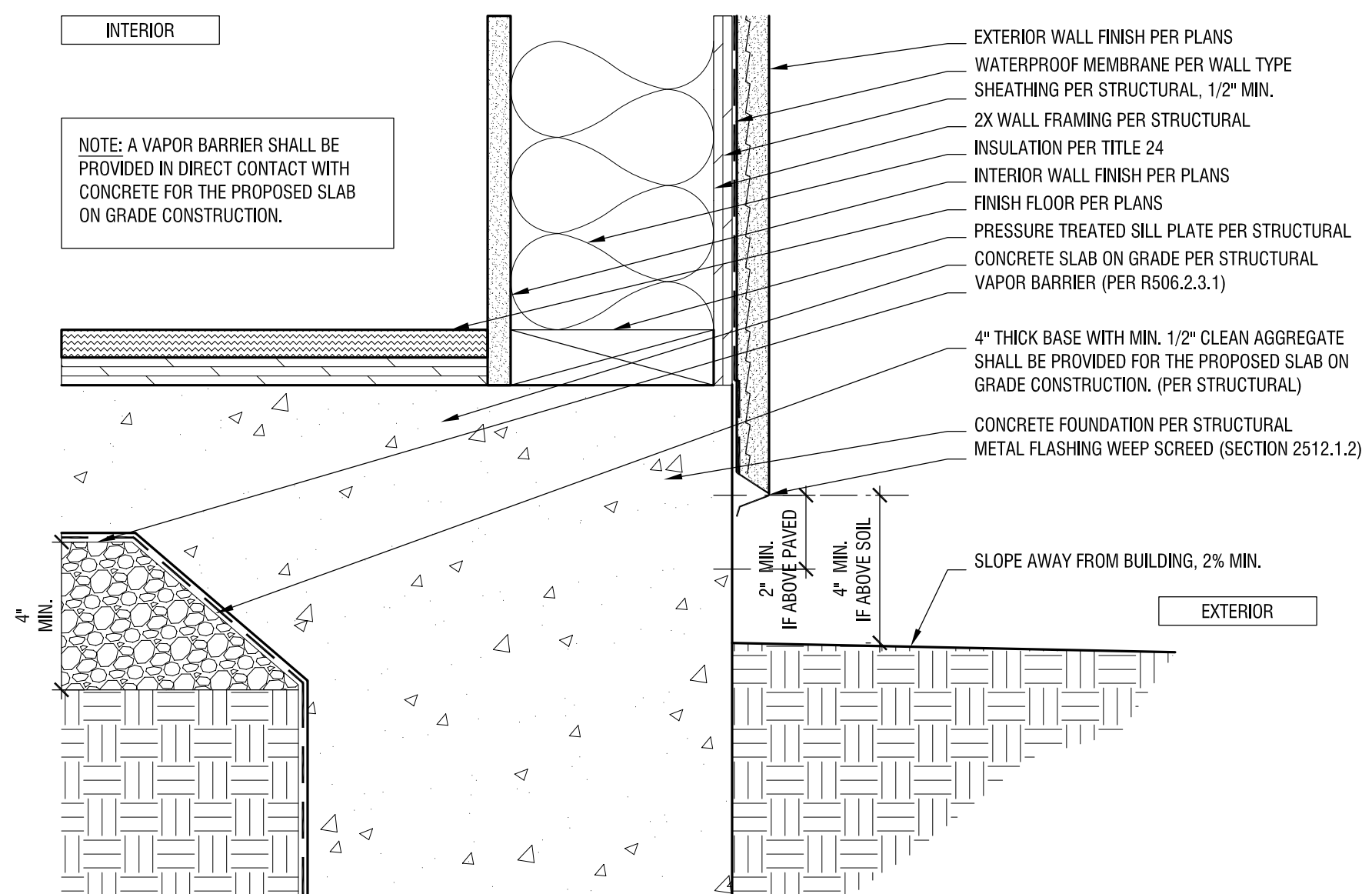
03 EXTERIOR WALL
SCALE: 3\"/>



09 ROOF EAVE, SLOPED WITH GUTTER DETAIL
SCALE: 3\"/>



02 SHOWER DROPPED CURB DETAIL
SCALE: 3\"/>



01 SLAB ON GRADE EDGE DETAIL
SCALE: 3\"/>

ADU PROGRAM

OWNER:

CITY OF FRESNO
PLANNING AND DEVELOPMENT DEPARTMENT
2800 FRESNO STREET, 3RD FLOOR
FRESNO, CA 93721

ARCHITECT:

AARON NEUBERT ARCHITECTS, INC.
2814 ROWENA AVENUE, SUITE ONE
LOS ANGELES, CALIFORNIA 90009
P. 323.953.4700 F. 323.953.4900
AARON NEUBERT C.A.# C-29005

STRUCTURAL ENGINEER:

NOUS ENGINEERING, INC.
600 WILSHIRE BOULEVARD, SUITE 700
LOS ANGELES, CALIFORNIA 90017
P. 313.887.6887

MEP ENGINEER:

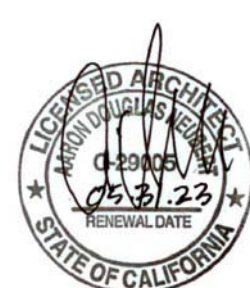
INNODEZ DESIGN AND ENGINEERING
726 FORBROUGH PLACE
PLEASANTON, CALIFORNIA 94566
P. 925.414.0867

REVISION: DATE: COMMENT:

ISSUE:

2 REVISION #2 06.03.22 PLAN CHECK CORRECTIONS
1 REVISION #1 04.04.22 PLAN CHECK CORRECTIONS

SEAL:



Project No. 2104

ADU PROGRAM
CITY OF FRESNO
CALIFORNIA

DRAWING TITLE:
TYPICAL DETAIL
GABLE

DATE: JUNE 3, 2022

SCALE: 3\"/>

DRAWN BY: ANX

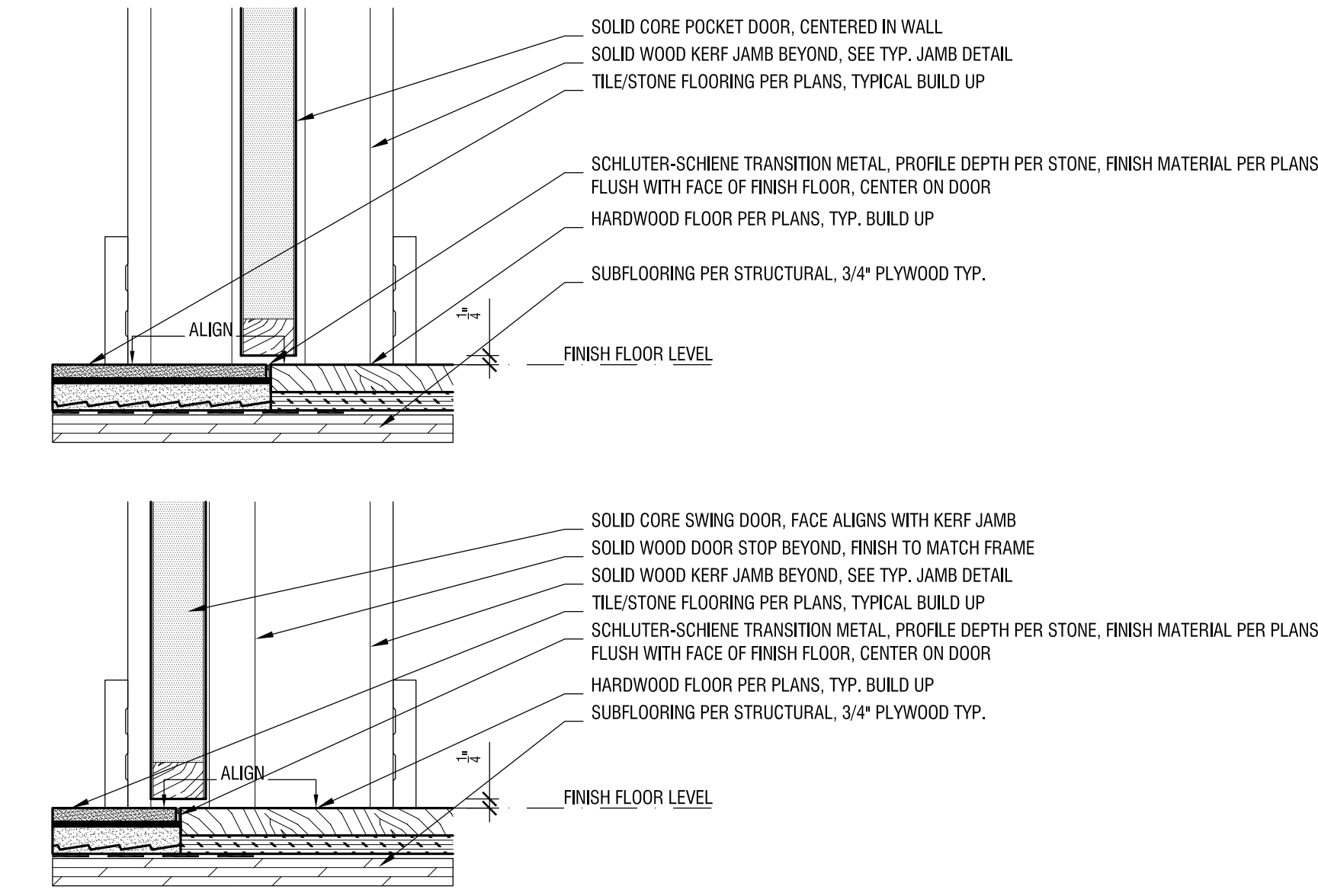
ADU PROGRAM

OWNER:
CITY OF FRESNO
PLANNING AND DEVELOPMENT DEPARTMENT
2000 FRESNO STREET, 3RD FLOOR
FRESNO, CA 93721

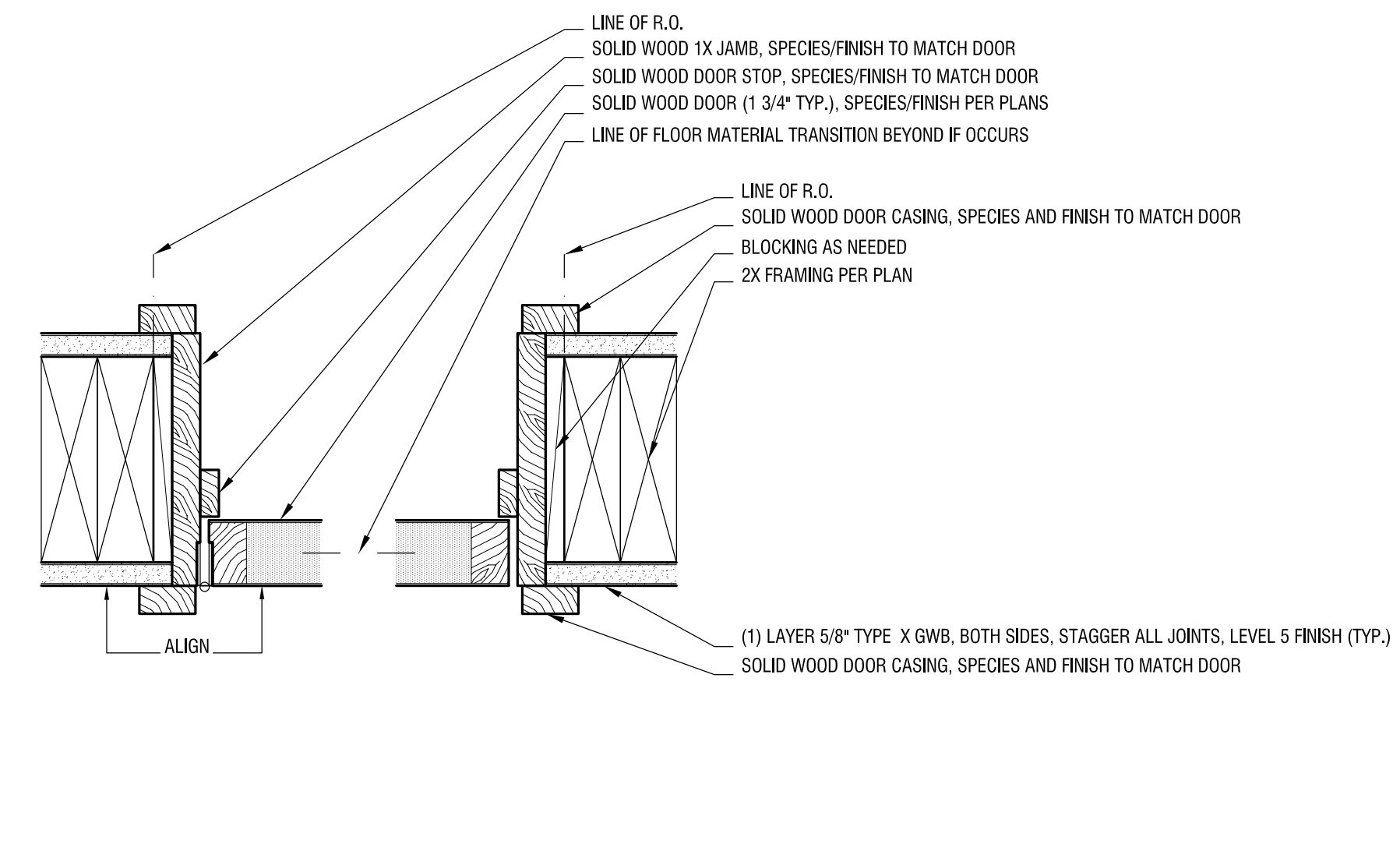
ARCHITECT:
AARON NEUBERT ARCHITECTS, INC.
2814 FOWENIA AVENUE, SUITE ONE
LOS ANGELES, CALIFORNIA 90039
P. 323.953.4700 F. 323.953.4900
AARON NEUBERT CA# C-29005

STRUCTURAL ENGINEER:
NOUS ENGINEERING, INC.
600 WILSHIRE BOULEVARD, SUITE 700
LOS ANGELES, CALIFORNIA 90017
P. 313.857.6887

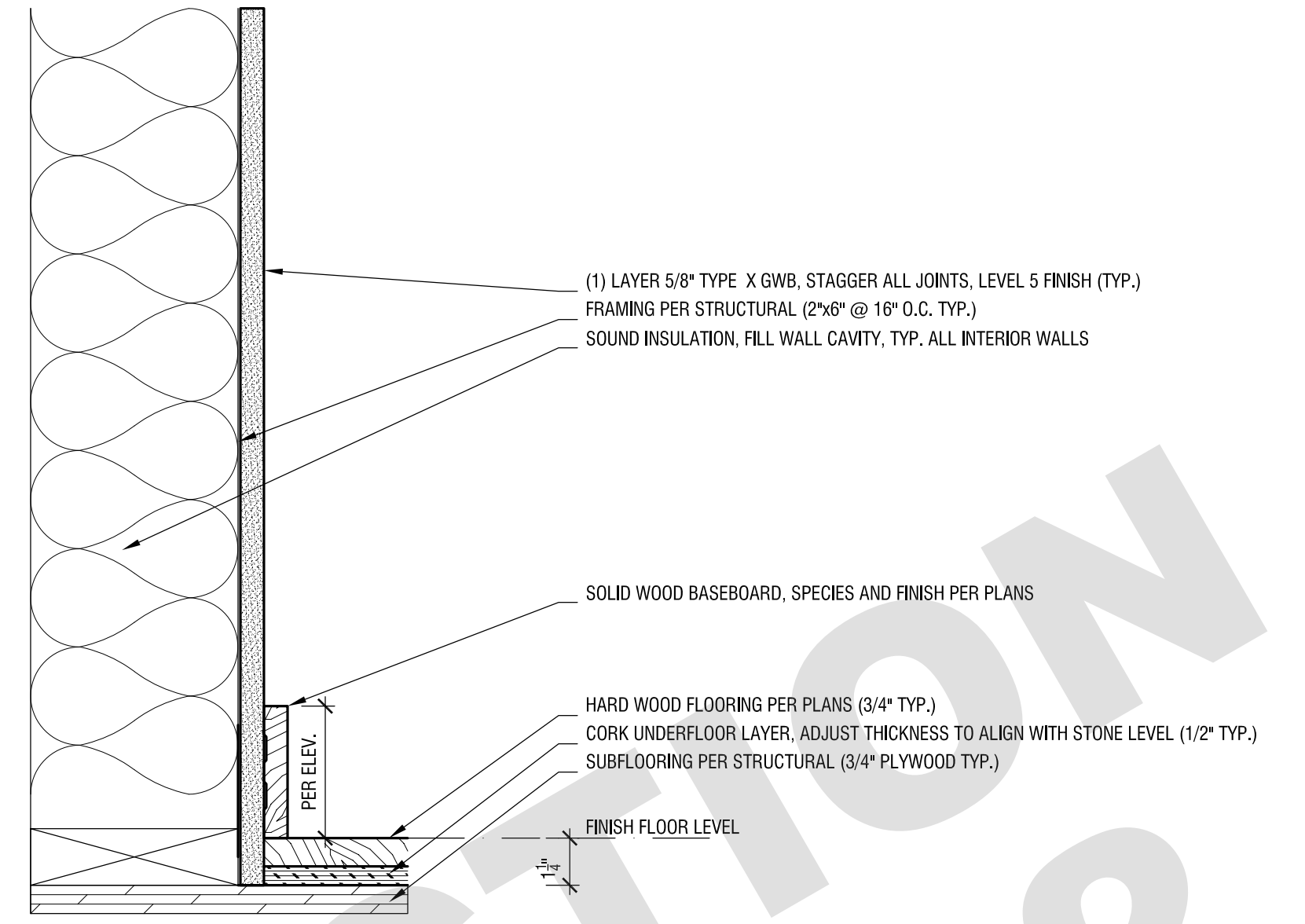
MEP ENGINEER:
INNODEZ DESIGN AND ENGINEERING
726 FORBROUGH PLACE
PLEASANTON, CALIFORNIA 94566
P. 424.414.0987



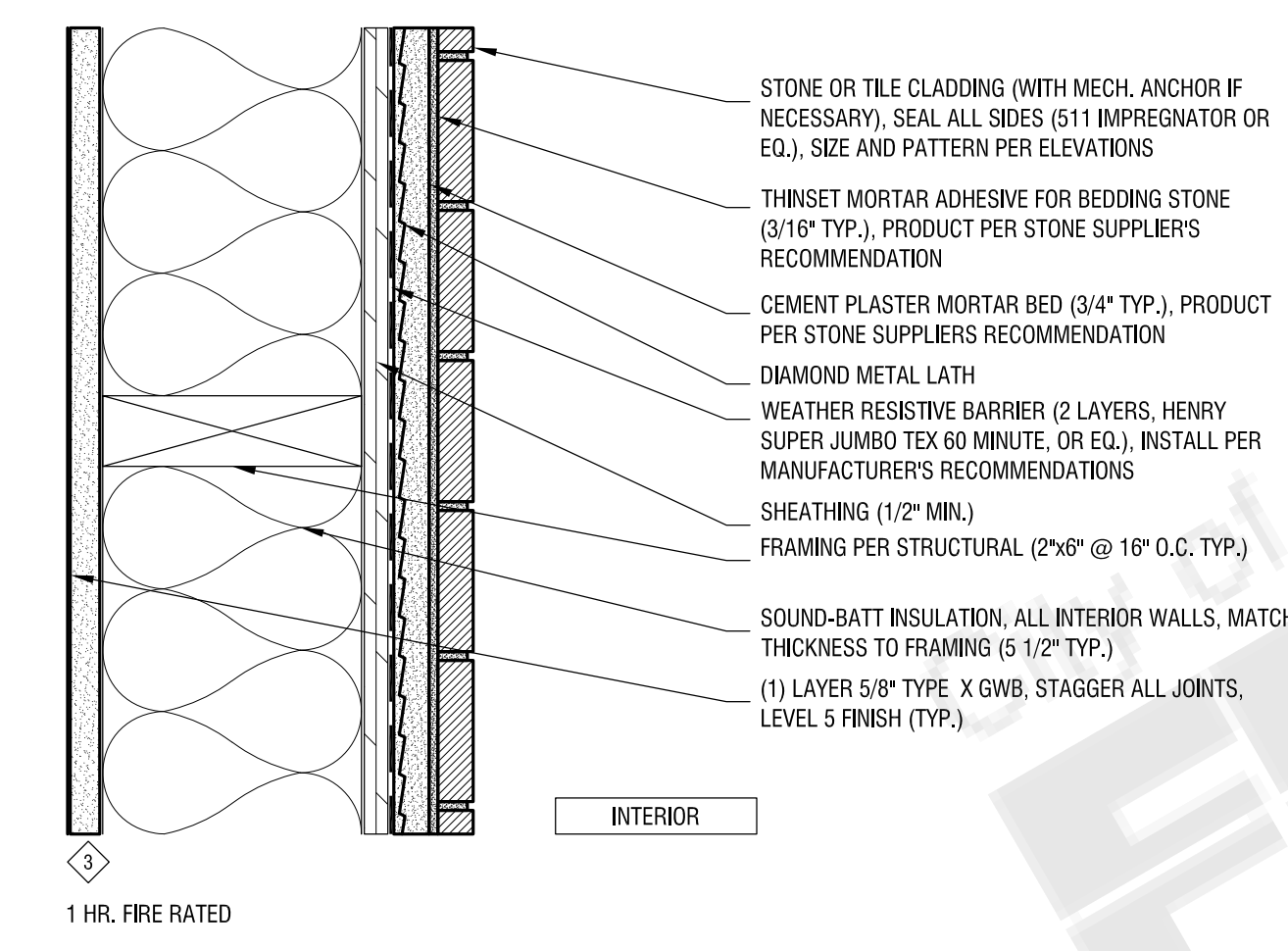
08 FLUSH FLOOR TRANSITION DETAIL AT DOOR
SCALE: 3"=1'-0"



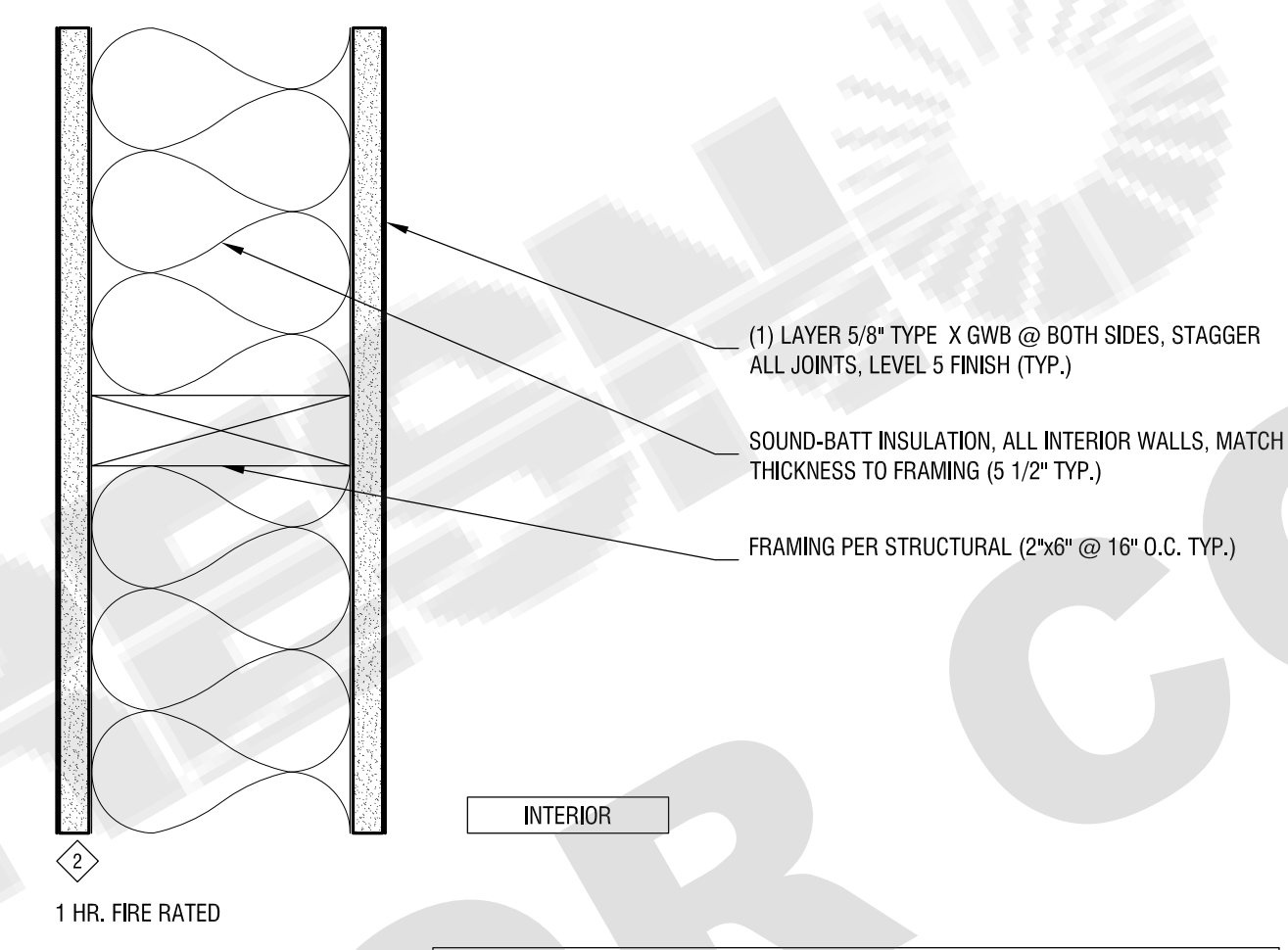
07 FRAMED DOOR JAMB DETAIL
SCALE: 3"=1'-0"



06 PROUD BASEBOARD DETAIL
SCALE: 3"=1'-0"

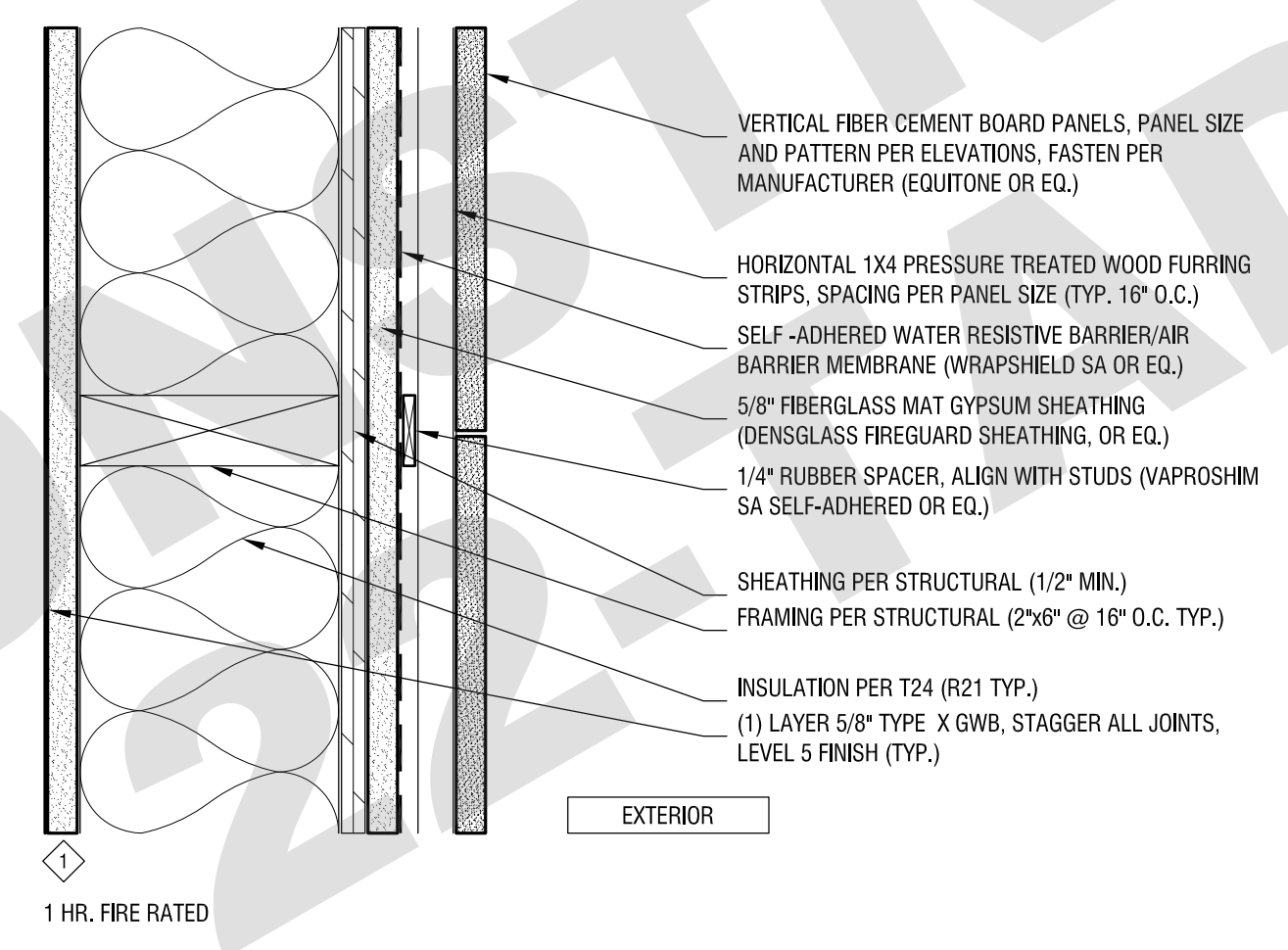


05 INTERIOR PARTITION
SCALE: 3"=1'-0"

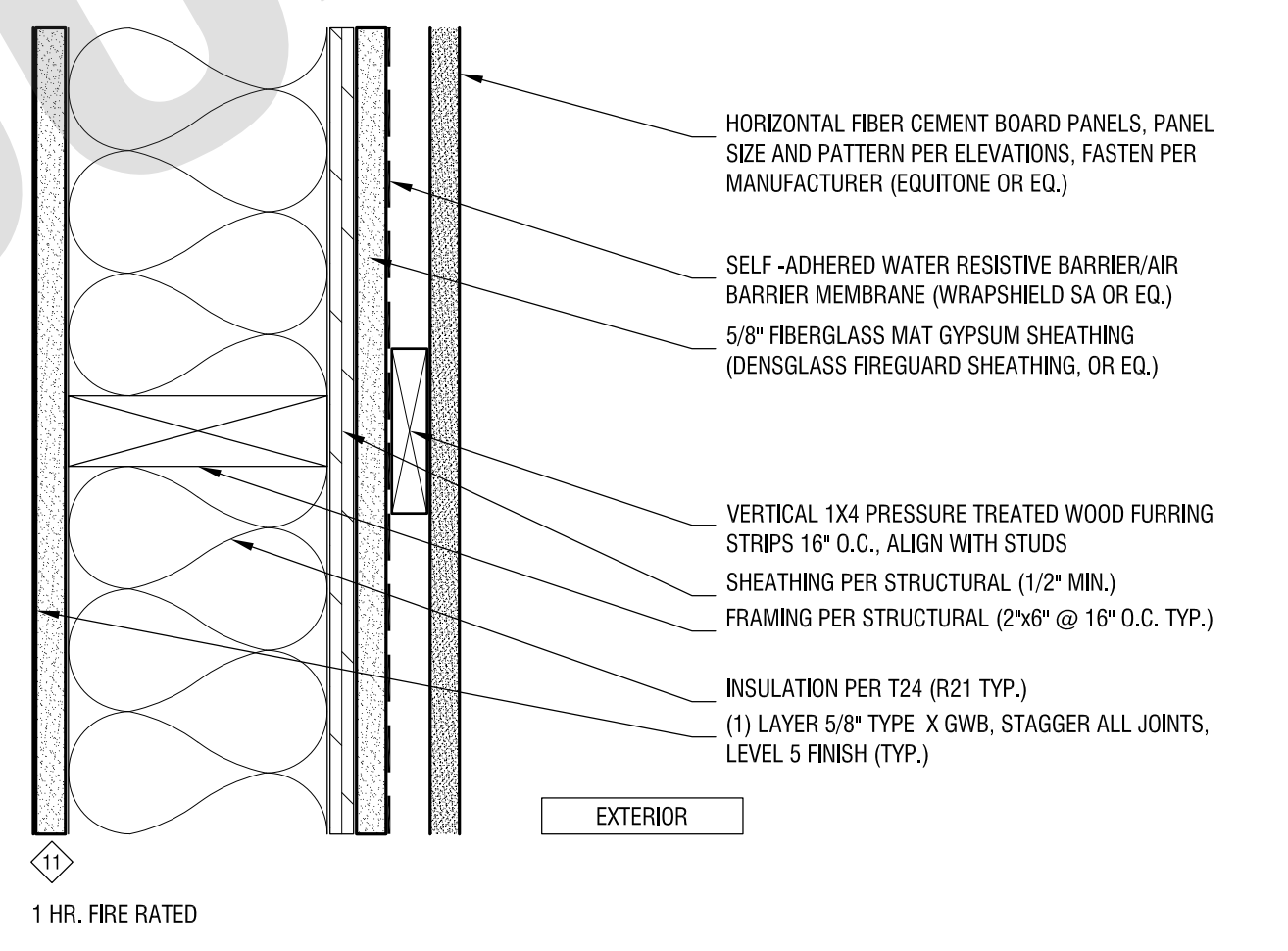


04 INTERIOR PARTITION
SCALE: 3"=1'-0"

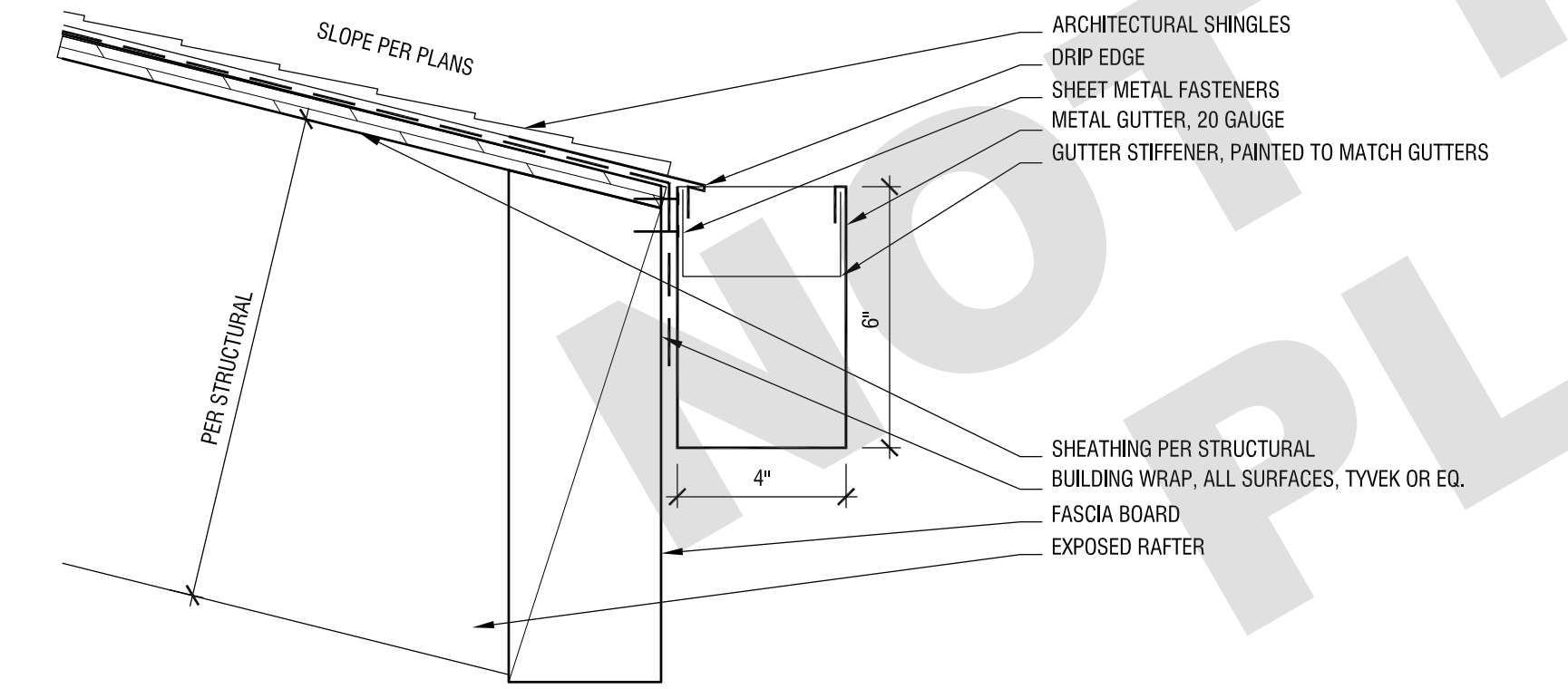
1 HR. FIRE RATING NOTE: IF FIRE SEPARATION DISTANCE OF EXTERIOR WALL IS GREATER THAN 10', THEN EXTERIOR WALL OF TYPE V-B DOES NOT HAVE TO BE FIRE RATED (DENSGLASS SHEATHING DOES NOT NEED TO BE INSTALLED).



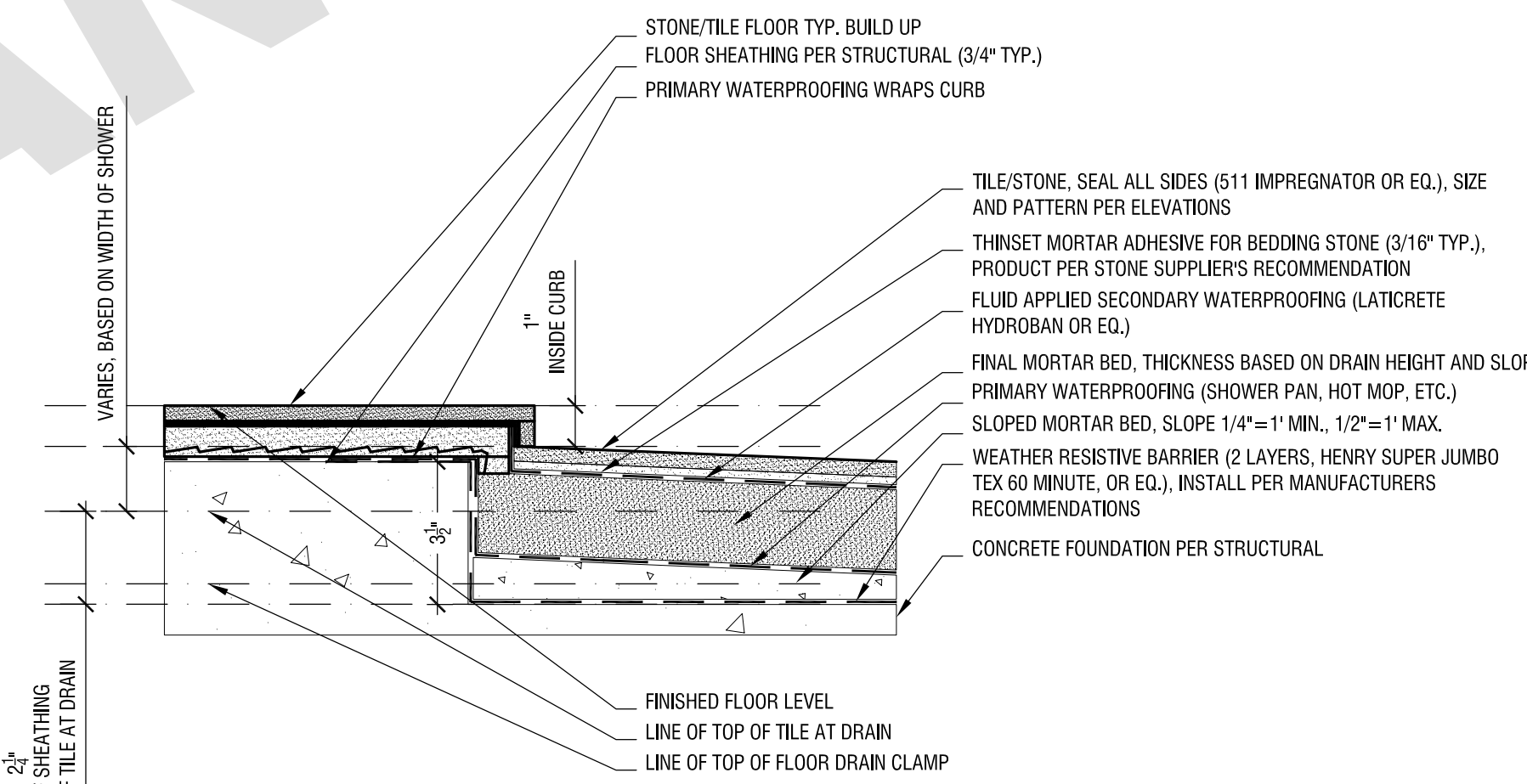
03A EXTERIOR WALL
SCALE: 3"=1'-0"



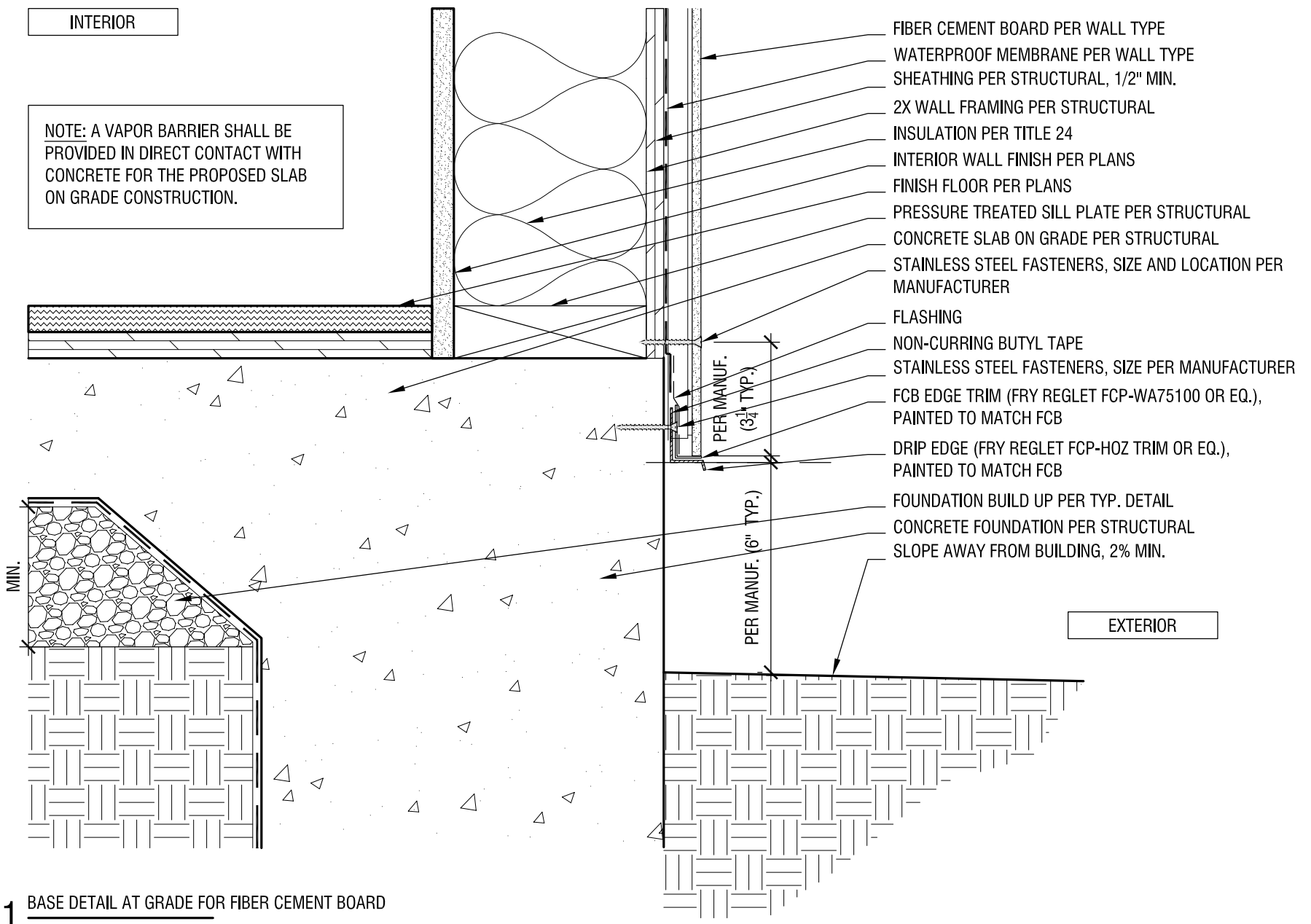
03 EXTERIOR WALL
SCALE: 3"=1'-0"



09 ROOF EAVE, SLOPED WITH GUTTER DETAIL
SCALE: 3"=1'-0"



02 SHOWER DROPPED CURB DETAIL
SCALE: 3"=1'-0"



01 BASE DETAIL AT GRADE FOR FIBER CEMENT BOARD
SCALE: 3"=1'-0"

REVISION:	DATE:	COMMENT:
2	REVISION #2 06.03.22	PLAN CHECK CORRECTIONS
1	REVISION #1 04.04.22	PLAN CHECK CORRECTIONS



Project No. 2104
ADU PROGRAM
CITY OF FRESNO
CALIFORNIA

DRAWING TITLE:
**TYPICAL DETAIL
CONTEMPORARY**

DATE: JUNE 3, 2022
SCALE: 3"=1'-0"
DRAWN BY: ANX

ADU PROGRAM

OWNER: CITY OF FRESNO
PLANNING AND DEVELOPMENT DEPARTMENT
2000 FRESNO STREET, 3RD FLOOR
FRESNO, CA 93721

ARCHITECT: AARON NEUBERT ARCHITECTS, INC.
2814 ROWENA AVENUE, SUITE ONE
LOS ANGELES, CALIFORNIA 90039
P. 323.953.4700 T. 323.953.4900
AARON NEUBERT C.A.# C-29005

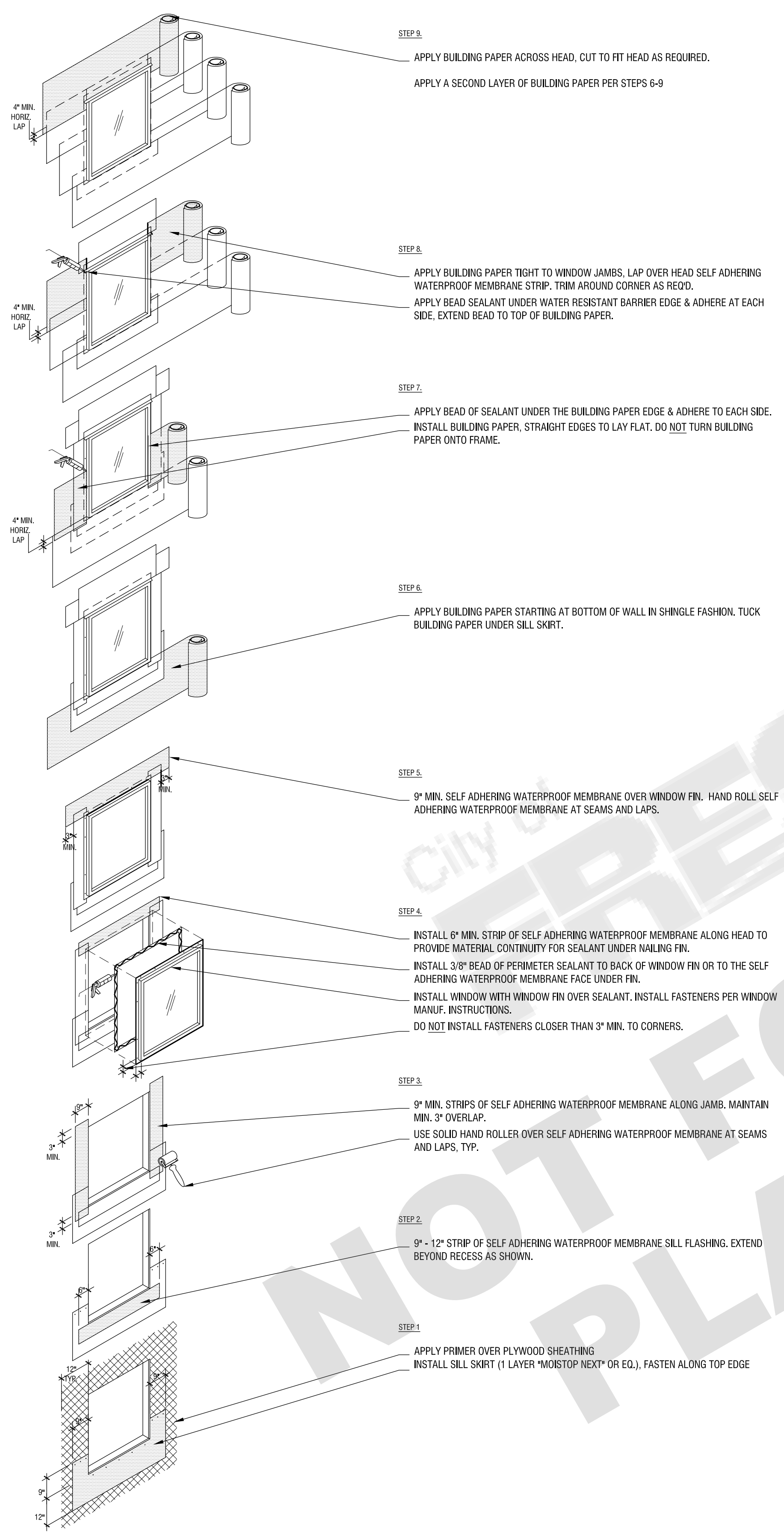
STRUCTURAL ENGINEER: NOUS ENGINEERING, INC.
600 WILSHIRE BOULEVARD, SUITE 700
LOS ANGELES, CALIFORNIA 90017
P. 313.887.6887

MEP ENGINEER: INNODEZ DESIGN AND ENGINEERING
726 FORBROUGH PLACE
PLEASANTON, CALIFORNIA 94566
P. 424.414.0987

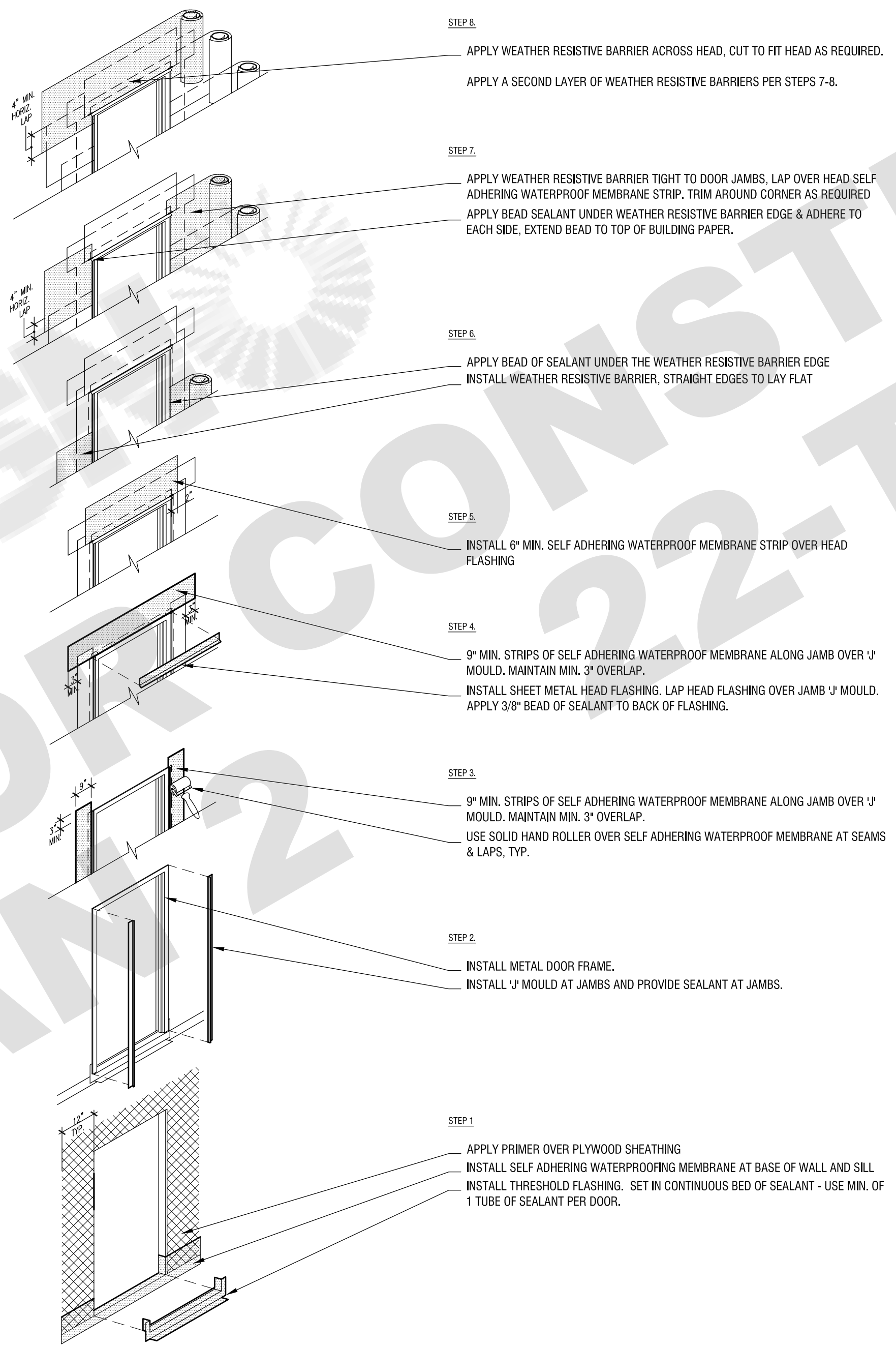
FLASHING & PENETRATION NOTES

THE FOLLOWING MATERIAL WILL BE USED ON ALL WALL PENETRATIONS. THE STEPS FOR APPLYING THE MATERIAL ARE FOR A GENERIC GUIDE. VERIFY THE RECOMMENDATIONS OF THE MATERIAL MANUFACTURE USED ON THE PROJECT AND WHERE THEY DIFFER FROM THE GENERIC DETAILS ON THE SHEET, FOLLOW THE MANUFACTURER'S RECOMMENDATIONS.

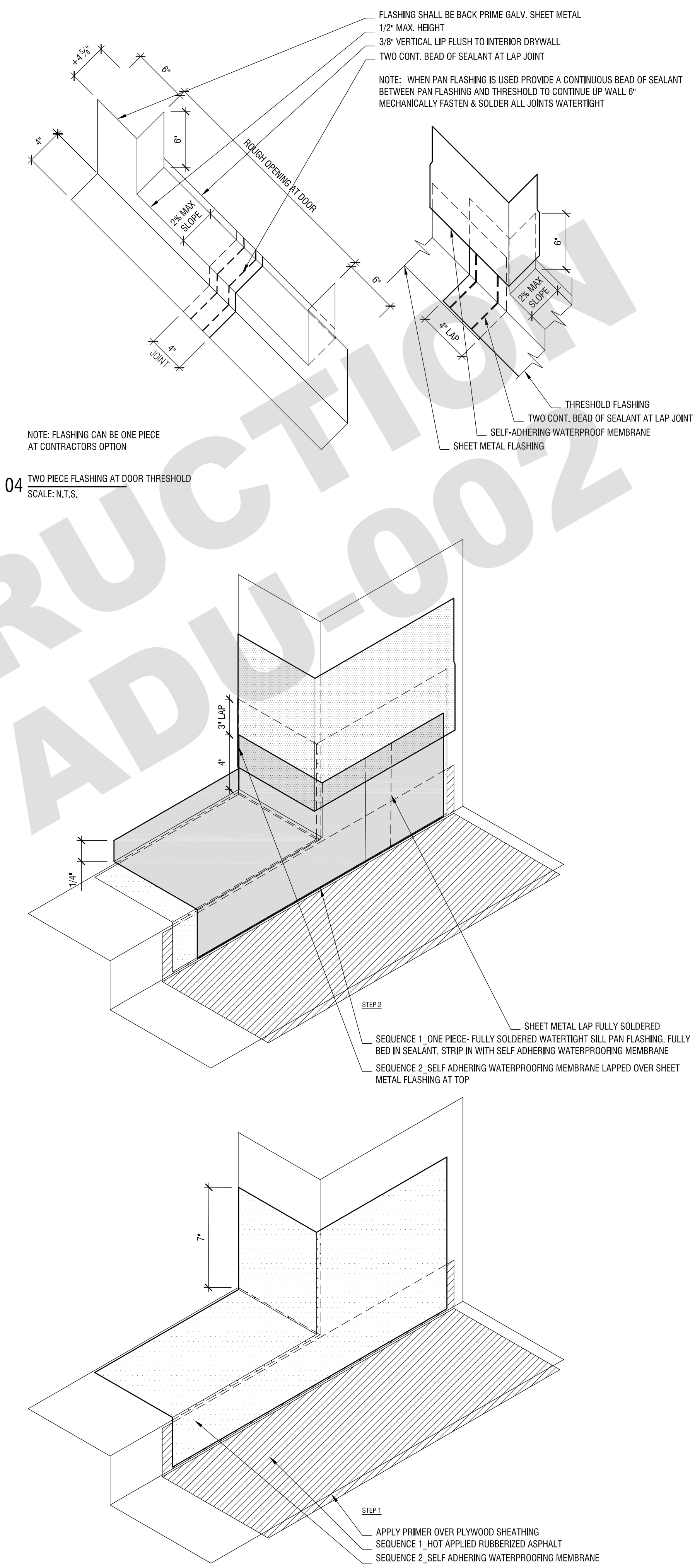
- SELF ADHERING WATERPROOF MEMBRANE TO BE 25 MILS & SELF SEALING BY ONE OF THE FOLLOWING MANUFACTURER'S:
A) FORTIFLASH 25 BY FORTIBER.
B) VYCOR V25 SHIELD BY W.R. GRACE & CO.
C) PREFORMED CORNER FLASHING TO BE TLS GS 100 BY TLS.
- BUILDING PAPER TO BE 2 LAYERS OF 60 MINUTE TYPE "D".
A) SUPER JUMBO TEX-60 MINUTE BY FORTIFLASH.
- SHEATHING PRIMER-12" AROUND OPENING.
A) WR GRACE PERM-A-BARRIER-WB PRIMER (USE W/ VYCOR).
B) HENRY "AQUA-TAC PRIMER (USE WITH FORTIFLASH).
C) 3M "99" SPRAY ADHESIVE.
- SEALANTS (VERIFY COMPATIBILITY WITH WINDOW & WATERPROOFING MANUFACTURE).
A) TOPS #900
B) FORTIFIBER "MOISTOP SEALANT" - (USE WITH FORTIFLASH).
C) SCHNEE - MOREHEAD "PROINSTALL 7100"
- PREPARE FIELD MOCK UP OF EACH PENETRATION TYPE FOR APPROVAL.
- PRE MADE CORNERS ARE ALLOWED.



03 FLUSH WINDOW FLASHING SEQUENCE
SCALE: N.T.S.



02 DOOR FLASHING
SCALE: N.T.S.



01 SILL PAN FLASHING SEQUENCE
SCALE: N.T.S.

REVISION:	DATE:	COMMENT:
2	REVISION #2 06.03.22	PLAN CHECK CORRECTIONS
1	REVISION #1 04.04.22	PLAN CHECK CORRECTIONS



Project No: 2104
ADU PROGRAM
CITY OF FRESNO
CALIFORNIA

DRAWING TITLE:
TYPICAL DETAIL FLASHING

DATE: JUNE 3, 2022
SCALE: N.T.S.
DRAWN BY: ANX

ADU PROGRAM

OWNER:

CITY OF FRESNO
PLANNING AND DEVELOPMENT DEPARTMENT
2000 FRESNO STREET, 3RD FLOOR
FRESNO, CA 93721

ARCHITECT:

AARON NEUBERT ARCHITECTS, INC.
2814 ROWENA AVENUE, SUITE ONE
LOS ANGELES, CALIFORNIA 90039
P. 323.953.4700 F. 323.953.4900
AARON NEUBERT C.A.# C-29005

STRUCTURAL ENGINEER:

NOUS ENGINEERING, INC.
600 WILSHIRE BOULEVARD, SUITE 700
LOS ANGELES, CALIFORNIA 90017
P. 313.827.6867

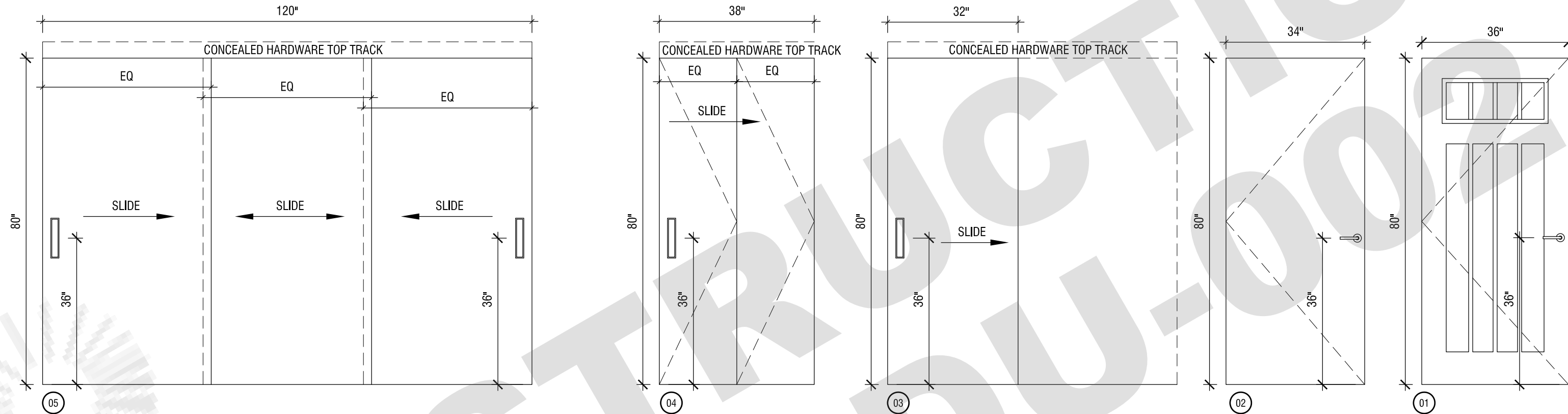
MEP ENGINEER:

INNODEZ DESIGN AND ENGINEERING
726 FORBROUGH PLACE
PLEASANTON, CALIFORNIA 94566
P. 424.414.0967

DOOR SCHEDULE

UNIT	QTY.	TYPE	LOCATION	O.D. WIDTH	O.D. HEIGHT	U-FACTOR	SHGC	GLASS	FINISH	HINGES	MANUFACTURER #	COMMENTS	HARDWARE GROUP
01	1	FIBERGLASS DOOR	ENTRY	36"	80"	-	-	-	-	SQ. STN. STL.	-	-	-
02	1	SOLID WOOD DOOR 1-3/4" FLUSH PANEL	BATH	34"	80"	-	-	-	-	SQ. STN. STL.	-	-	-
03	1	SOLID WOOD DOOR 1-3/4" FLUSH PANEL	BEDROOM	32"	80"	-	-	-	-	-	-	SLIDING POCKET DOOR	-
04	1	SOLID WOOD DOOR FLUSH PANEL BIFOLD	CLOSET	38"	80"	-	-	-	-	-	-	BIFOLD DOOR	-
05	1	SOLID WOOD DOOR 1-3/4" FLUSH PANEL	BEDROOM CLOSET	120"	80"	-	-	-	-	-	-	3 PANEL SLIDING CLOSET	-

NOTE:
ALL WINDOWS AND DOORS ARE VIEWED FROM EXTERIOR
LOOKING AT THE WINDOWS AND DOORS



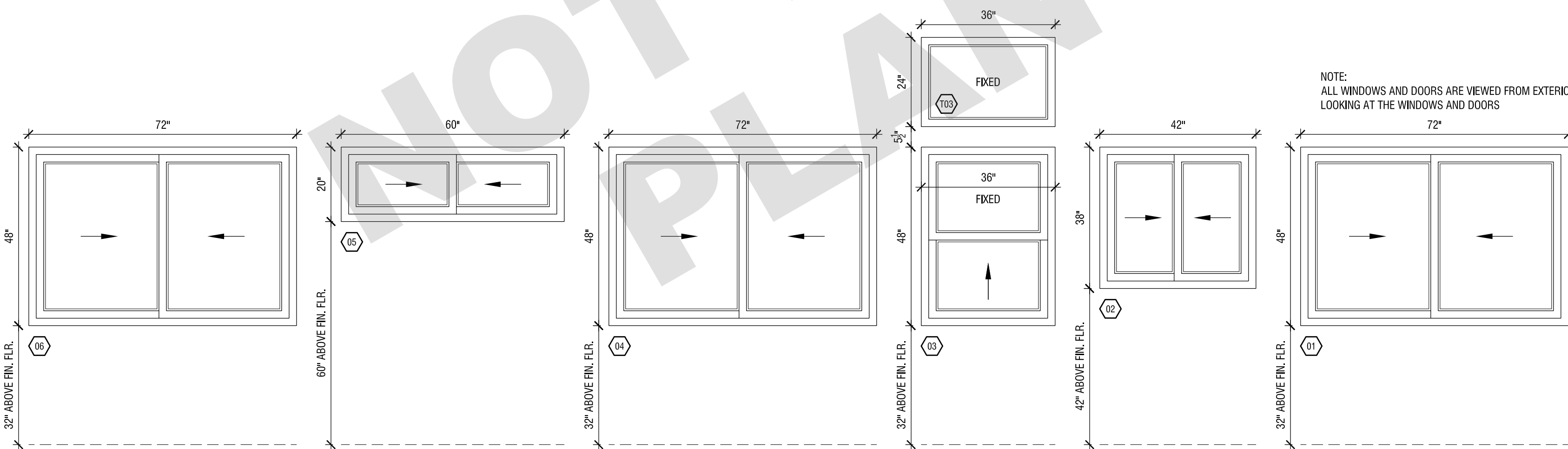
03 DOOR SCHEDULE
SCALE: 1/2"=1'-0"

WINDOW SCHEDULE

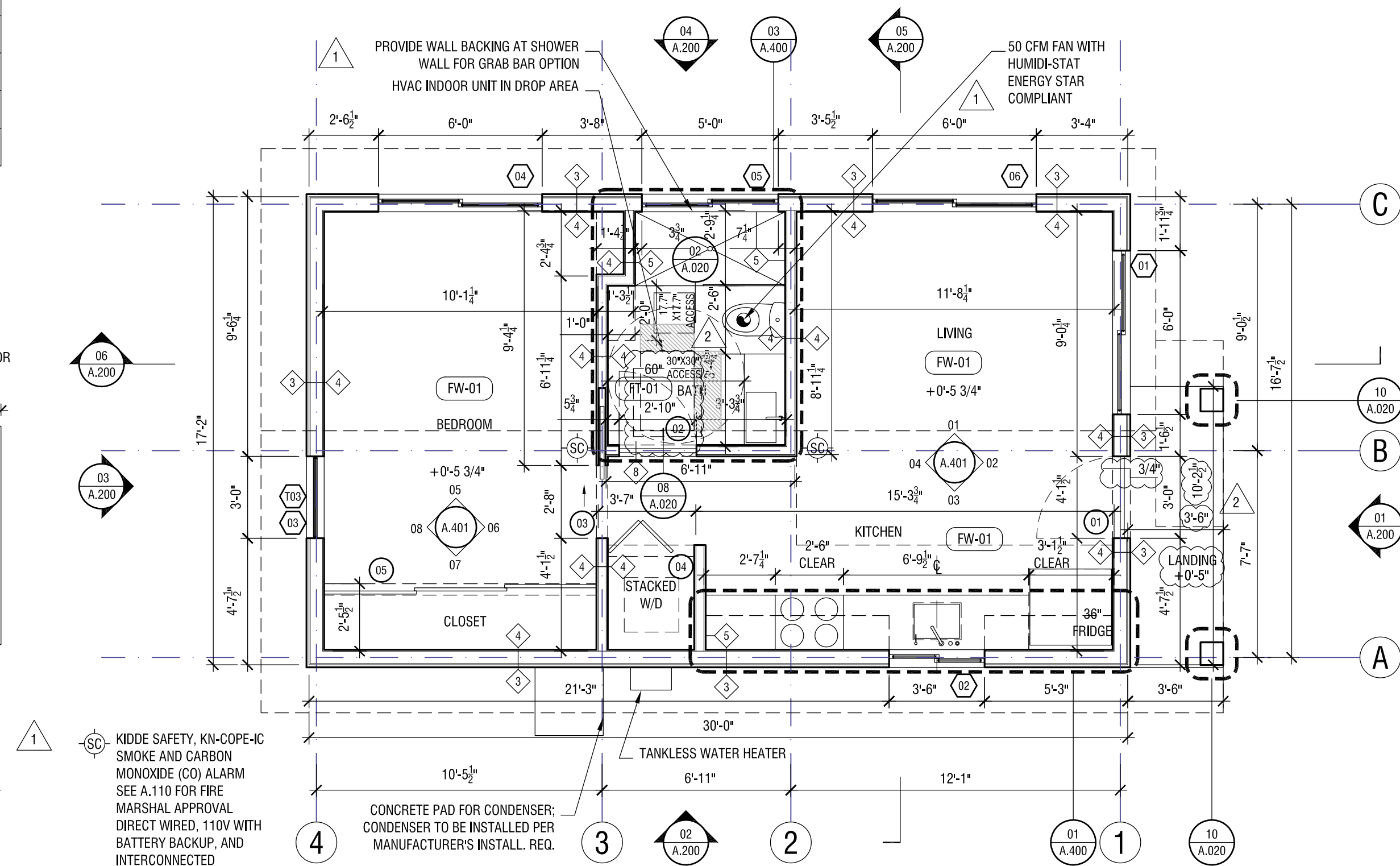
UNIT	QTY.	TYPE	LOCATION	O.D. WIDTH	O.D. HEIGHT	R.O. WIDTH	R.O. HEIGHT	GLASS	U-FACTOR	SHGC	FINISH	SCREEN	MODEL #	COMMENTS
01	1	DBL SLIDER	LIVING	72"	48"	72 3/4"	48 3/4"				VINYL	YES		
02	1	DBL SLIDER	KITCHEN	42"	36"	42 3/4"	36 3/4"				VINYL	YES		
03	1	SNGL HUNG	BEDROOM	36"	48"	36 3/4"	48 3/4"				VINYL	YES		
03S	1	FXED	BEDROOM	36"	24"	36 3/4"	24 3/4"				VINYL	-		
04	1	DBL SLIDER	BEDROOM	72"	48"	72 3/4"	48 3/4"				VINYL	YES		
05	1	DBL SLIDER	BATH	60"	20"	60 3/4"	20 3/4"				VINYL	YES		
06	1	DBL SLIDER	LIVING	72"	48"	72 3/4"	48 3/4"				VINYL	YES		

NOTE:
ALL GLASS TO BE CLEAR TEMPERED

Door landing requirements:
a)Width of door with 36" minimum. (CRC section R311.3)
b)No more than 1 1/2" lower than the top of the threshold. (CRC section R311.3.1)
c)Not more than 7/4" below the top of the threshold provided that the door does not swing over the landing or floor. (CRC section R311.3.1)



02 WINDOW SCHEDULE
SCALE: 1/2"=1'-0"



01 FLOOR PLAN
SCALE: 1/4"=1'-0"

REVISION:

DATE:

COMMENT:

ISSUE:

2

REVISION #2 06.03.22 PLAN CHECK CORRECTIONS

1

REVISION #1 04.04.22 PLAN CHECK CORRECTIONS

SEAL:



Project No: 2104

ADU PROGRAM
CITY OF FRESNO
CALIFORNIA

DRAWING TITLE:

ADU 02 - CRAFTSMAN
FLOOR PLAN
WINDOW/ DOOR SCHEDULE
514 SF

DATE: JUNE 3, 2022

SCALE: AS NOTED

DRAWN BY:

ADU PROGRAM

OWNER:

CITY OF FRESNO
PLANNING AND DEVELOPMENT DEPARTMENT
2000 FRESNO STREET, 3RD FLOOR
FRESNO, CA 93721

ARCHITECT:

AARON NEUBERT ARCHITECTS, INC.
2814 ROWENA AVENUE, SUITE ONE
LOS ANGELES, CALIFORNIA 90039
P. 323.953.4700 T. 323.953.4900
AARON NEUBERT C.A.# C-29005

STRUCTURAL ENGINEER:

NOUS ENGINEERING, INC.
600 WILSHIRE BOULEVARD, SUITE 700
LOS ANGELES, CALIFORNIA 90017
P. 313.827.6867

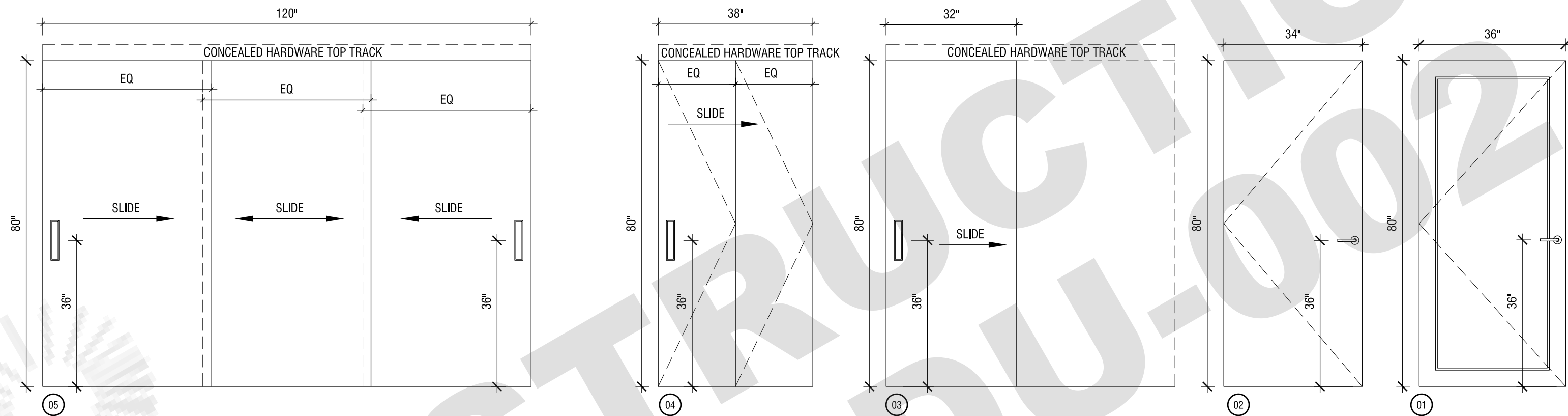
MEP ENGINEER:

INNODEZ DESIGN AND ENGINEERING
726 FORBROUGH PLACE
PLEASANTON, CALIFORNIA 94566
P. 424.414.0967

DOOR SCHEDULE

UNIT	QTY.	TYPE	LOCATION	O.D. WIDTH	O.D. HEIGHT	U-FACTOR	SHGC	GLASS	FINISH	HINGES	MANUFACTURER #	COMMENTS	HARDWARE GROUP
01	1	FIBERGLASS DOOR WITH TEMP. LITE	ENTRY	36"	80"	-	-	-	-	SQ. STN. STL.	-	-	-
02	1	SOLID WOOD DOOR 1-3/4" FLUSH PANEL	BATH	34"	80"	-	-	-	-	SQ. STN. STL.	-	-	-
03	1	SOLID WOOD DOOR 1-3/4" FLUSH PANEL	BEDROOM	32"	80"	-	-	-	-	-	-	SLIDING POCKET DOOR	-
04	1	SOLID WOOD DOOR FLUSH PANEL BIFOLD	CLOSET	38"	80"	-	-	-	-	-	-	BIFOLD DOOR	-
05	1	SOLID WOOD DOOR 1-3/4" FLUSH PANEL	BEDROOM CLOSET	120"	80"	-	-	-	-	-	-	3 PANEL SLIDING CLOSET	-

NOTE:
ALL WINDOWS AND DOORS ARE VIEWED FROM EXTERIOR
LOOKING AT THE WINDOWS AND DOORS



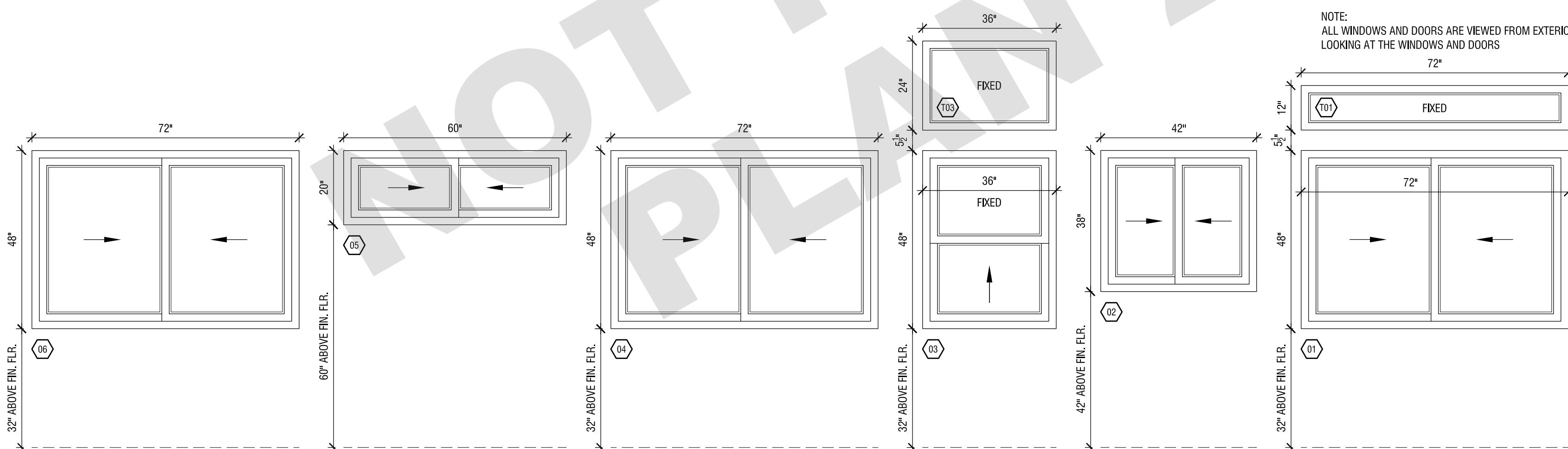
03 DOOR SCHEDULE
SCALE: 1/2"=1'-0"

WINDOW SCHEDULE

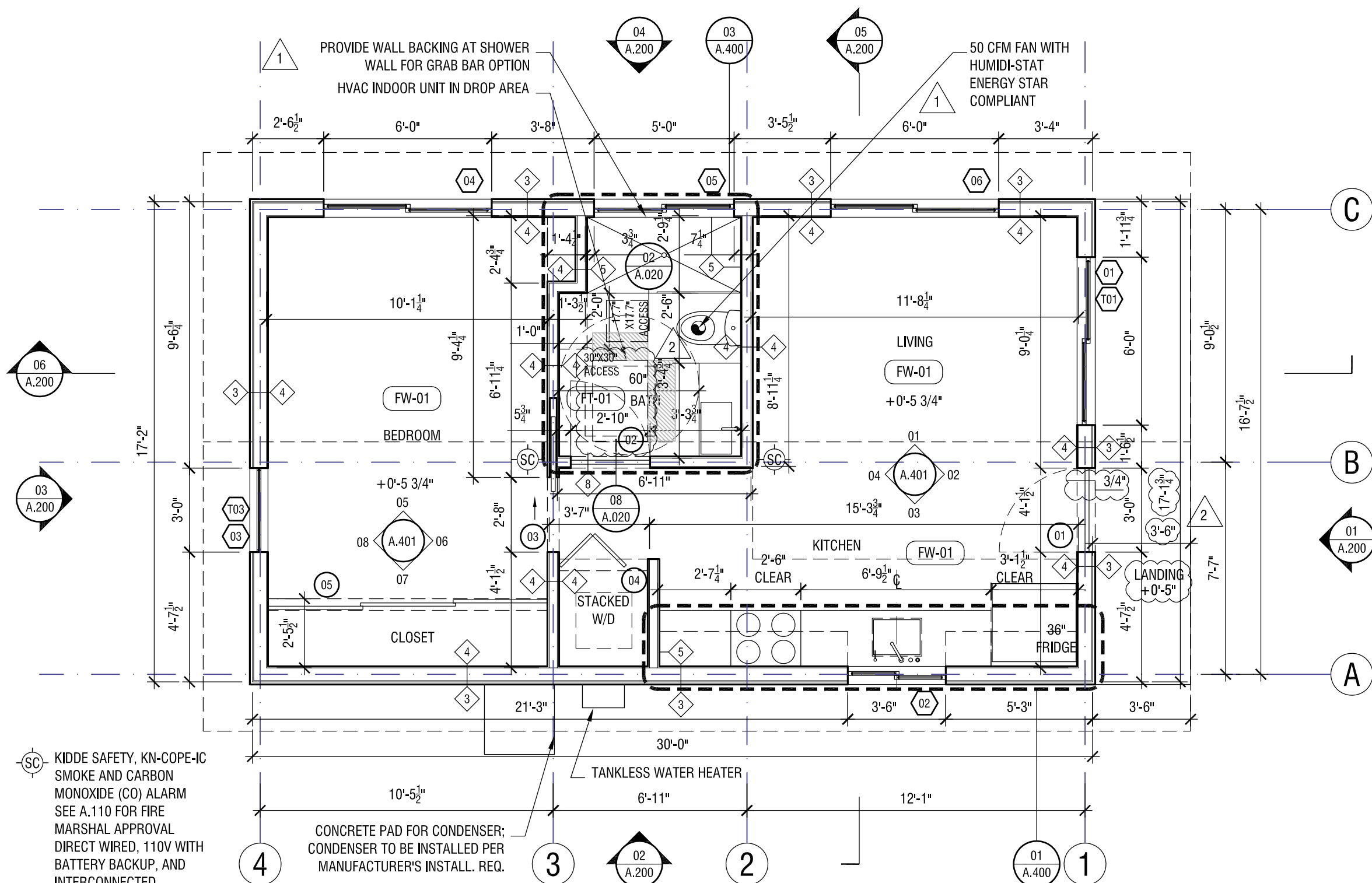
UNIT	QTY.	TYPE	LOCATION	O.D. WIDTH	O.D. HEIGHT	R.O. WIDTH	R.O. HEIGHT	GLASS	U-FACTOR	SHGC	FINISH	SCREEN	MODEL #	COMMENTS
01	1	DBL SLIDER	LIVING	72"	48"	72 3/4"	48 3/4"				VINYL	YES		
02	1	FIXED	LIVING	72"	12"	72 3/4"	12 3/4"				VINYL	-		
03	1	DBL SLIDER	KITCHEN	42"	36"	42 3/4"	36 3/4"				VINYL	YES		
04	1	SNGL HUNG	BEDROOM	36"	48"	36 3/4"	48 3/4"				VINYL	YES		
05	1	FIXED	BEDROOM	36"	24"	36 3/4"	24 3/4"				VINYL	-		
06	1	DBL SLIDER	BEDROOM	72"	48"	72 3/4"	48 3/4"				VINYL	YES		
07	1	DBL SLIDER	BATH	60"	20"	60 3/4"	20 3/4"				VINYL	YES		
08	1	DBL SLIDER	LIVING	72"	48"	72 3/4"	48 3/4"				VINYL	YES		

NOTE:
ALL GLASS TO BE CLEAR TEMPERED

Door landing requirements:
a)Width of door with 36" minimum. (CRC section R311.3)
b)No more than 1½"lower than the top of the threshold. (CRC section R311.3.1)
c)Not more than 7¾" below the top of the threshold provided that the door does not swing over the landing or floor. (CRC section R311.3.1)



02 WINDOW SCHEDULE
SCALE: 1/2"=1'-0"



01 FLOOR PLAN
SCALE: 1/4"=1'-0"

REVISION:

DATE:

COMMENT:

ISSUE:

- 2 REVISION #2 06.03.22 PLAN CHECK CORRECTIONS
1 REVISION #1 04.04.22 PLAN CHECK CORRECTIONS

SEAL:



Project No: 2104

ADU PROGRAM

CITY OF FRESNO

CALIFORNIA

DRAWING TITLE:

ADU 02 - GABLE
FLOOR PLAN
WINDOW/ DOOR SCHEDULE
514 SF

DATE: JUNE 3, 2022

SCALE: AS NOTED

DRAWN BY:

ADU PROGRAM

OWNER:

CITY OF FRESNO
PLANNING AND DEVELOPMENT DEPARTMENT
2000 FRESNO STREET, 3RD FLOOR
FRESNO, CA 93721

ARCHITECT:

AARON NEUBERT ARCHITECTS, INC.
2814 ROWENA AVENUE, SUITE ONE
LOS ANGELES, CALIFORNIA 90039
P. 323.953.4700 F. 323.953.4900
AARON NEUBERT CA# C-29005

STRUCTURAL ENGINEER:

NOUS ENGINEERING, INC.
600 WILSHIRE BOULEVARD, SUITE 700
LOS ANGELES, CALIFORNIA 90017
P. 313.827.6867

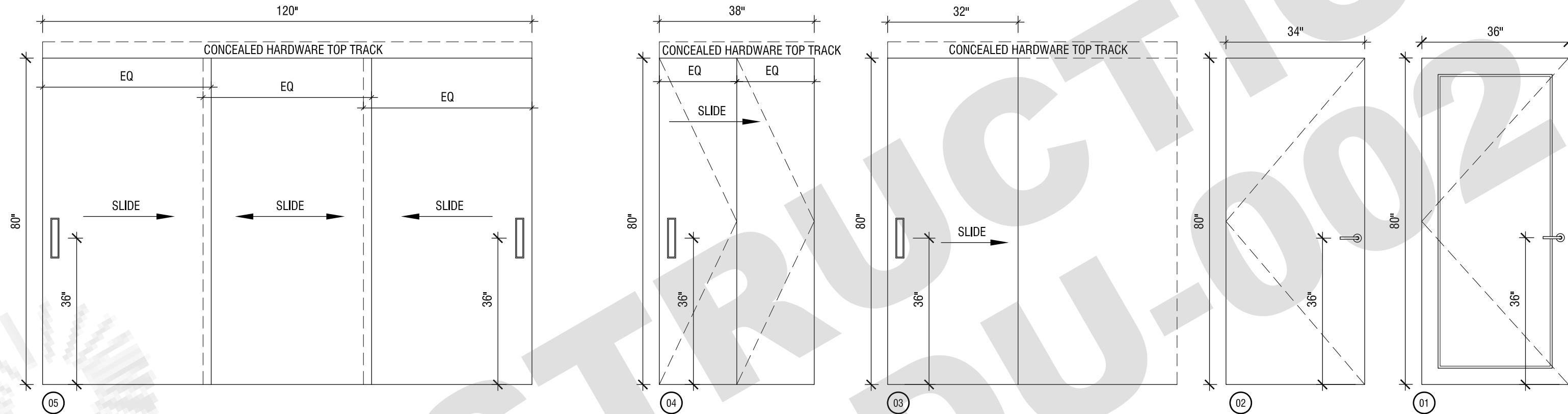
MEP ENGINEER:

INNODEZ DESIGN AND ENGINEERING
726 FORBROUGH PLACE
PLEASANTON, CALIFORNIA 94566
P. 424.414.0967

DOOR SCHEDULE

UNIT	QTY.	TYPE	LOCATION	O.D. WIDTH	O.D. HEIGHT	U-FACTOR	SHGC	GLASS	FINISH	HINGES	MANUFACTURER #	COMMENTS	HARDWARE GROUP
01	1	FIBERGLASS DOOR WITH TEMP. LITE	ENTRY	36"	80"	-	-	-	-	SQ. STN. STL.	-	-	-
02	1	SOLID WOOD DOOR 1-3/4" FLUSH PANEL	BATH	34"	80"	-	-	-	-	SQ. STN. STL.	-	-	-
03	1	SOLID WOOD DOOR 1-3/4" FLUSH PANEL	BEDROOM	32"	80"	-	-	-	-	-	-	SLIDING POCKET DOOR	-
04	1	SOLID WOOD DOOR FLUSH PANEL BIFOLD	CLOSET	38"	80"	-	-	-	-	-	-	BIFOLD DOOR	-
05	1	SOLID WOOD DOOR 1-3/4" FLUSH PANEL	BEDROOM CLOSET	120"	80"	-	-	-	-	-	-	3 PANEL SLIDING CLOSET	-

NOTE:
ALL WINDOWS AND DOORS ARE VIEWED FROM EXTERIOR
LOOKING AT THE WINDOWS AND DOORS



03 DOOR SCHEDULE

SCALE: 1/2"=1'-0"

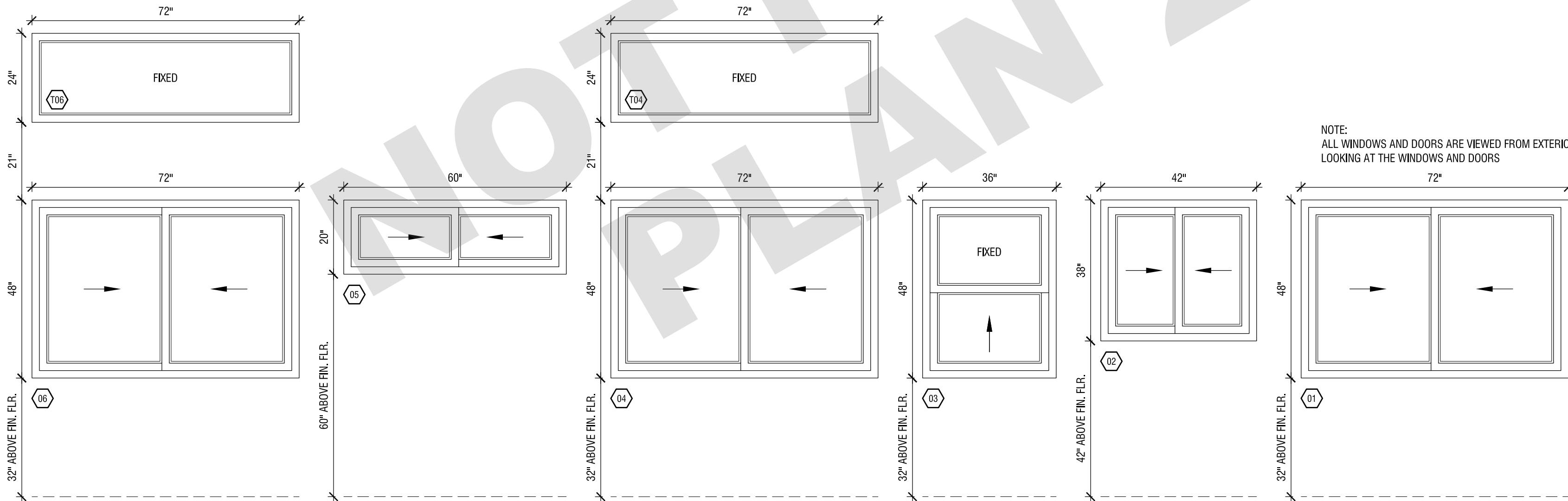
WINDOW SCHEDULE

UNIT	QTY.	TYPE	LOCATION	O.D. WIDTH	O.D. HEIGHT	R.O. WIDTH	R.O. HEIGHT	GLASS	U-FACTOR	SHGC	FINISH	SCREEN	MODEL #	COMMENTS
01	1	DBL SLIDER	LIVING	72"	48"	72 3/4"	48 3/4"				VINYL	YES		
02	1	DBL SLIDER	KITCHEN	42"	36"	42 3/4"	36 3/4"				VINYL	YES		
03	1	SNGL HUNG	BEDROOM	36"	48"	36 3/4"	48 3/4"				VINYL	YES		
04	1	DBL SLIDER	BEDROOM	72"	48"	72 3/4"	48 3/4"				VINYL	YES		
104	1	FIXED	BEDROOM	72"	24"	72 3/4"	24 3/4"				VINYL	-		
05	1	DBL SLIDER	BATH	60"	20"	60 3/4"	20 3/4"				VINYL	YES		
06	1	DBL SLIDER	LIVING	72"	48"	72 3/4"	48 3/4"				VINYL	YES		
106	1	FIXED	LIVING	72"	24"	72 3/4"	24 3/4"				VINYL	-		

1

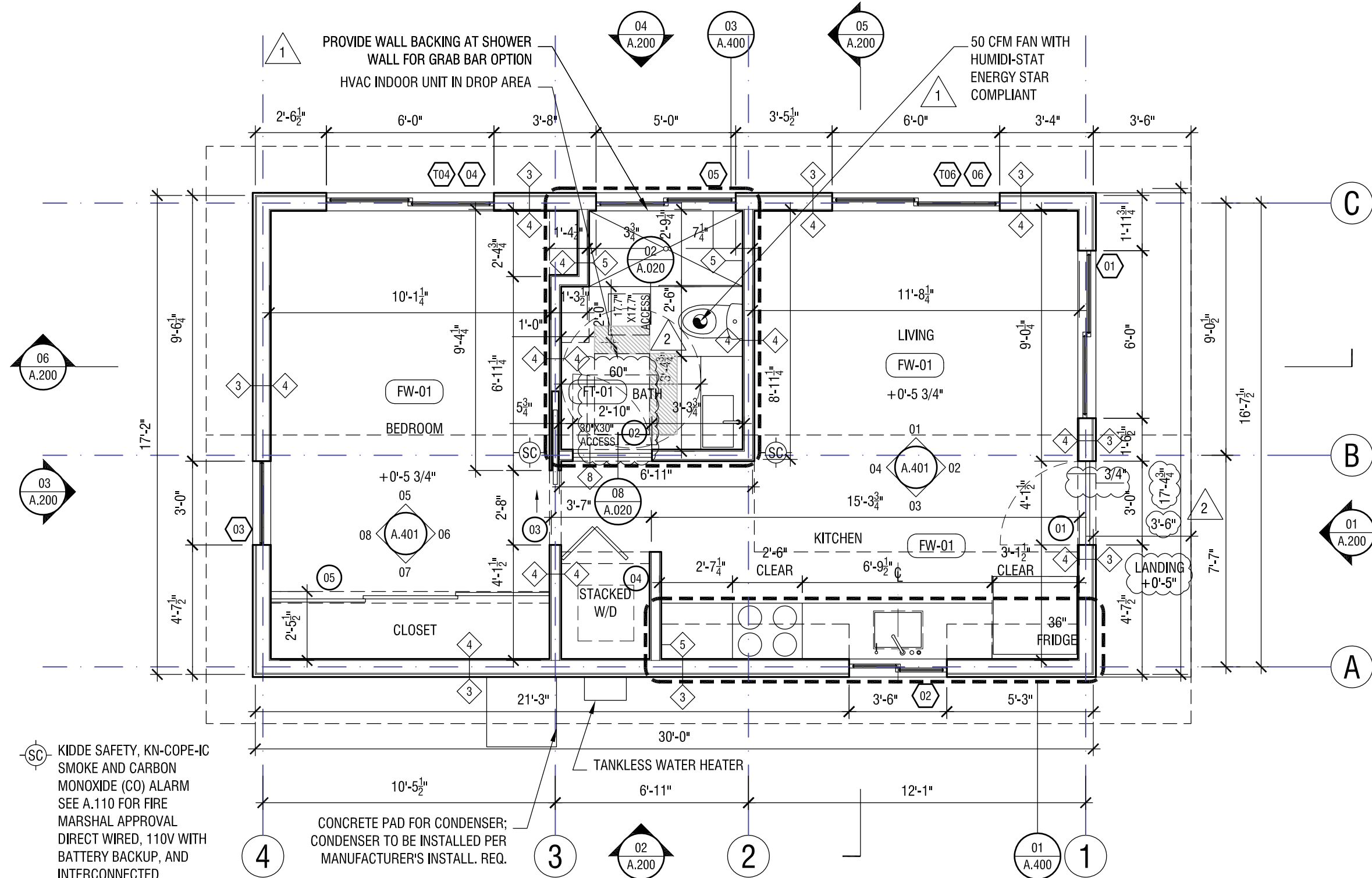
NOTE:
ALL GLASS TO BE CLEAR TEMPERED

Door landing requirements:
a)Width of door with 36" minimum. (CRC section R311.3)
b)No more than 1½"lower than the top of the threshold. (CRC section R311.3.1)
c)Not more than 7¾" below the top of the threshold provided that the door does not swing over the landing or floor. (CRC section R311.3.1)



02 WINDOW SCHEDULE

SCALE: 1/2"=1'-0"



01 FLOOR PLAN

SCALE: 1/4"=1'-0"

REVISION:

DATE:

COMMENT:

ISSUE:

2

REVISION #2 06.03.22 PLAN CHECK CORRECTIONS

1

REVISION #1 04.04.22 PLAN CHECK CORRECTIONS

SEAL:



Project No: 2104

ADU PROGRAM

CITY OF FRESNO
CALIFORNIA

DRAWING TITLE:

ADU 02 - CONTEMPORARY
FLOOR PLAN
WINDOW/ DOOR SCHEDULE
514 SF

DATE: JUNE 3, 2022

SCALE: AS NOTED

DRAWN BY:

© Aaron Neubert Architects, INC. 2022

A.100s

ADU PROGRAM

OWNER:

CITY OF FRESNO
PLANNING AND DEVELOPMENT DEPARTMENT
2000 FRESNO STREET, 3RD FLOOR
FRESNO, CA 93721

ARCHITECT:

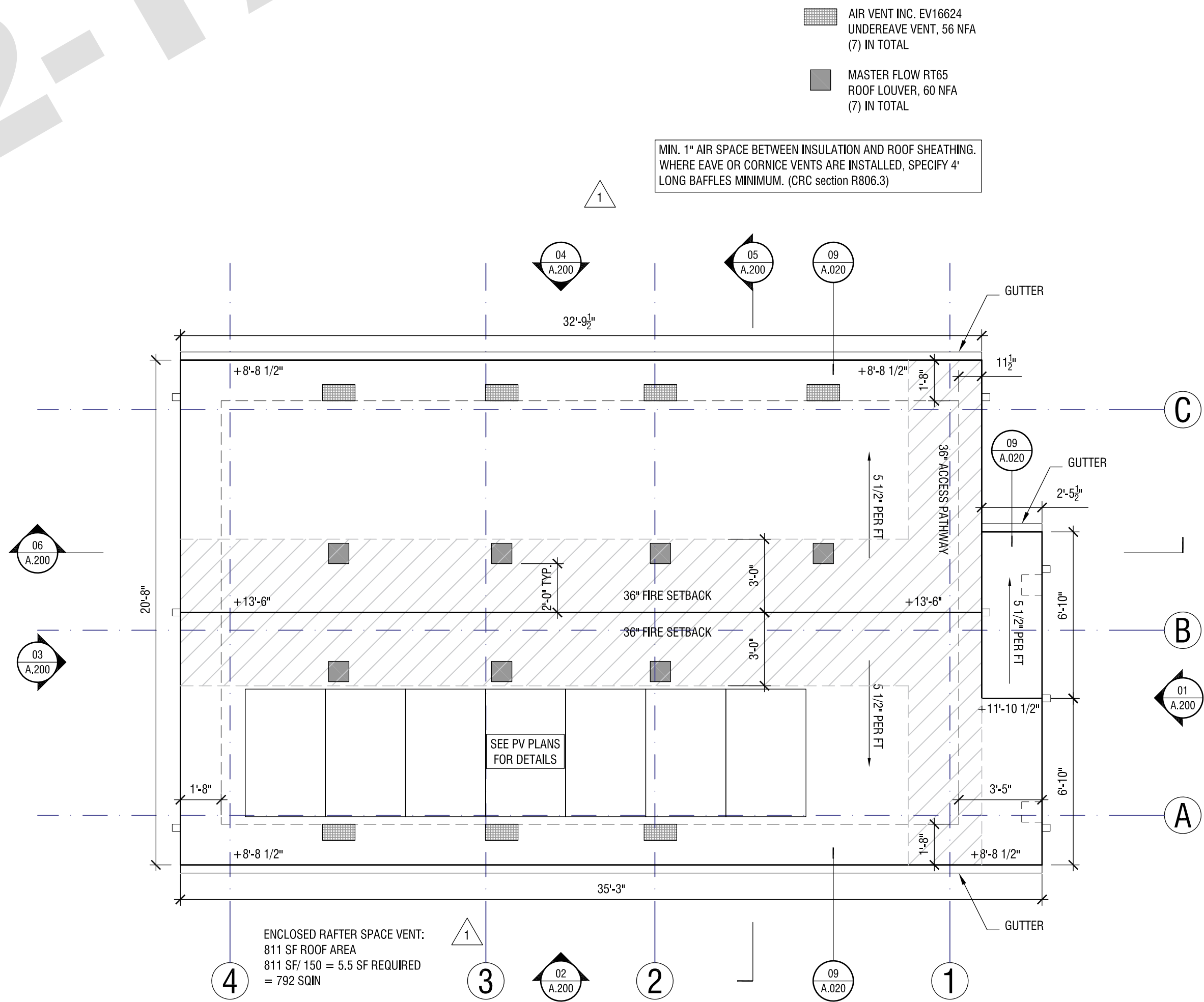
AARON NEUBERT ARCHITECTS, INC.
2814 ROWENA AVENUE, SUITE ONE
LOS ANGELES, CALIFORNIA 90039
P. 323.953.4700 F. 323.953.4900
AARON NEUBERT CA# C-29005

STRUCTURAL ENGINEER:

NOUS ENGINEERING, INC.
600 WILSHIRE BOULEVARD, SUITE 700
LOS ANGELES, CALIFORNIA 90017
P. 313.857.6857

MEP ENGINEER:

INNODEZ DESIGN AND ENGINEERING
726 FORBROUGH PLACE
PLEASANTON, CALIFORNIA 94566
P. 925.414.0957



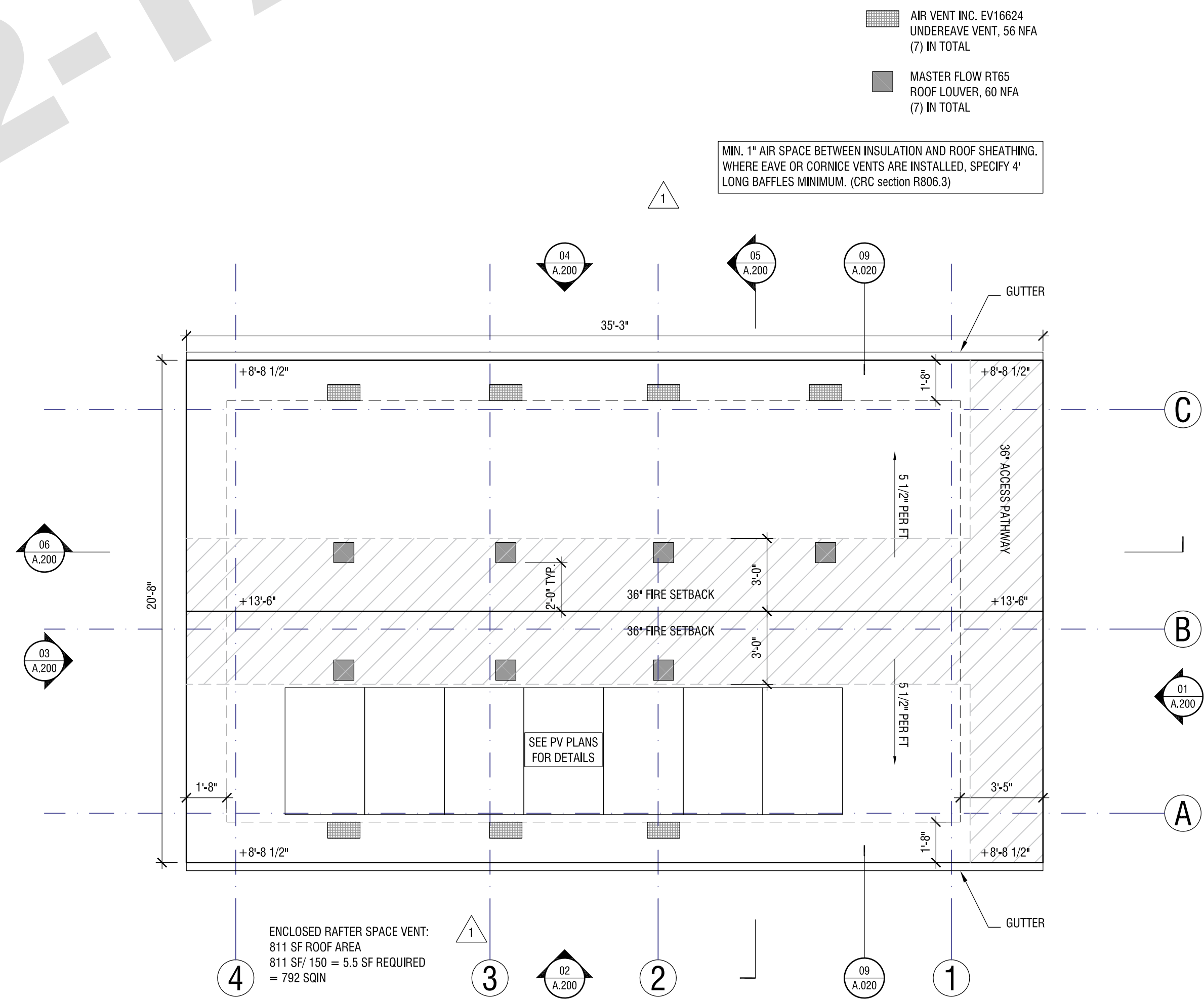
ADU PROGRAM

OWNER:
CITY OF FRESNO
PLANNING AND DEVELOPMENT DEPARTMENT
2000 FRESNO STREET, 3RD FLOOR
FRESNO, CA 93721

ARCHITECT:
AARON NEUBERT ARCHITECTS, INC.
2814 ROWENA AVENUE, SUITE ONE
LOS ANGELES, CALIFORNIA 90039
P. 323.953.4700 F. 323.953.4900
AARON NEUBERT CA# C-29005

STRUCTURAL ENGINEER:
NOUS ENGINEERING, INC.
600 WILSHIRE BOULEVARD, SUITE 700
LOS ANGELES, CALIFORNIA 90017
P. 313.857.6857

MEP ENGINEER:
INNODEZ DESIGN AND ENGINEERING
726 FORBROUGH PLACE
PLEASANTON, CALIFORNIA 94566
P. 925.414.0957



REVISION:	DATE:	COMMENT:
2	REVISION #2 06.03.22	PLAN CHECK CORRECTIONS
1	REVISION #1 04.04.22	PLAN CHECK CORRECTIONS



Project No: 2104
ADU PROGRAM
CITY OF FRESNO
CALIFORNIA

DRAWING TITLE:
ADU 02 - GABLE
ROOF PLAN

DATE: JUNE 3, 2022
SCALE: 1/4"=1'-0"
DRAWN BY:



OWNER

CITY OF FRESNO
PLANNING AND DEVELOPMENT DEPARTMENT
2600 FRESNO STREET, 3RD FLOOR
FRESNO, CA 93721

ARCHITECT

AARON NEUBERT ARCHITECTS, INC.
2814 ROWENA AVENUE, SUITE ONE
LOS ANGELES, CALIFORNIA 90039
P. 323.953.4700 F. 323.953.4900

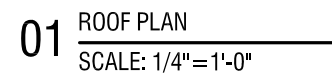
AARON NEUBERT CA# C-29005

STRUCTURAL ENGINEER:

NOUS ENGINEERING, INC.
600 WILSHIRE BOULEVARD, SUITE 760
LOS ANGELES, CALIFORNIA 90017
P. 213.627.6687



MEP ENGINEER

INNODEZ DESIGN AND ENGINEERING
726 FOXBROUGH PLACE
PLEASANTON, CALIFORNIA 94566
P. 424.414.0897



REVISION:	DATE:	COMMENT:
-----------	-------	----------

ISSUE:

 REVISION #2 06.03.22 PLAN CHECK CORRECTIONS
 REVISION #1 04.04.22 PLAN CHECK CORRECTIONS

SEAL:



Project No. 2104

ADU PROGRAM

CITY OF FRESNO
CALIFORNIA

DRAWING TITLE:

ADU 02 - CONTEMPORARY
ROOF PLAN

DATE: JUNE 3, 2022

SCALE: 1/4"=1'-0"

DRAWN BY

A.101s

CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
FIRE ENGINEERING - BUILDING MATERIALS LISTING PROGRAM
LISTING SERVICE



LISTING No. 7263-16100142 Page 1 of 1
CATEGORY: 7263 -- SMOKE ALARM-COMBINATION SMOKE/CARBON MONOXIDE (PHOTOELECTRIC)
LISTEE: KIDDE SAFETY4920 Centennial Blvd, Suite 145, Colorado Springs, CO 80919
Contact: Larry Ratzlaff (847) 214-1190
Email: larry.ratzlaff@carrier.com
DESIGN: *Model KN-COPE-IC is a 120 VAC powered with a 9 volt backup photoelectric type smoke and electrochemical carbon monoxide (CO) alarm. *Unit is equipped with alarm silence feature and have a 10 year end of life timer. Refer to listee's data sheet for detailed product description and operational considerations.
RATING: Model KN-COPE-IC: 120 VAC with 9 volt backup
Approved batteries: Duracell MN1604 or MX1604, Energizer 522 or Gold Peak 1604A
INSTALLATION: In accordance with listee's printed installation instructions, applicable codes and ordinances and in a manner acceptable to the authority having jurisdiction.
MARKING: Listee's name, model number, electrical rating, and UL label.
APPROVAL: Listed as a single/multiple station photoelectric smoke and electrochemical carbon monoxide (CO) alarm.
NOTE:
1. The photoelectric type alarms are generally more effective at detecting slow, smoldering fires which smolder for hours before bursting into flame. Sources of these fires may include cigarettes burning in couches or bedding. The ionization type alarms are generally more effective at detecting fast, flaming fires which consume combustible materials rapidly and spread quickly. Sources of these fires may include paper burning in a waste container or a grease fire in the kitchen.
2. *Meet the new smoke alarm requirement (SB1394).
3. *Formerly 7257-1610.0142

*Rev. 06-10-15 bh



This listing is based upon technical data submitted by the applicant. CSFM Fire Engineering staff has reviewed the test results and/or other data but does not make an independent verification of any claims. This listing is not an endorsement or recommendation of the item listed. This listing should not be used to verify correct operational requirements or installation criteria. Refer to listee's data sheet, installation instructions and/or other

Date Issued: **July 01, 2021** Listing Expires **June 30, 2022**
Authorized By: **DAVID CASTILLO, M.E., F.P.E.**
Fire Engineering Division

03 SMOKE/ CARBON MONOXIDE ALARM SPECIFICATION
SCALE: N/A

FRESNO ADU

GENERAL NOTES:

- Luminaires shall have appropriate UL or other label as required by local codes.
- Luminaires shall include accessories for installation according to local and national codes.
- Contractor shall verify the following prior to ordering luminaires:
 - locations and recess depths and any structural and other conflicts.
 - final voltages and ceiling trim compatibility.
 - ceilings more than 1/32" thick which limits trim compatibility.
 - luminaires in insulated ceilings, necessitating the need for insulated ceiling type housings.
- Contractor shall provide approved fire-rated enclosures for luminaires located in a fire-rated ceiling.
- Responsibility for emergency lighting, code compliance, and circuiting to meet code conformance remains with the Architect and Electrical Engineer as required by law.
- Contractor shall submit luminaire substitutions prior to bid for review. Contractor shall supply a sample and/or photometric data if requested. If substitution is rejected, Contractor shall provide specified product.
- Luminaire voltages to be determined by Project Electrical Engineer.
- All luminaire sockets shall be labeled permanently, in the factory, with wattages indicated in "Lamp Specification" column, not maximum wattages.

TYPE	DESCRIPTION	LUMINAIRE SPECIFICATION	LAMP SPECIFICATION	INPUT WATTS	LUMINAIRE NOTES	LOCATION	REV. NO.
F1	Downlight Interior	ELCO EL490ICA housing Koto Module with Pex 4" Adjustable Phenolic Baffle	2700K 120V	14 W	White Trim	Typ. Interior	
F2	Surface mounted luminaire for sink/vanity Damp Location	DWELED Slim Nightstick LED Wall Light WS-35819	1276 lm 3000K 120V	17 W		Bathroom	
F3	Under cabinet mounted led luminaire	Commercial Electric 16 ft. White Indoor LED Tape Light with remote 1004 105 594	180 lm/ft 3000K Dimmable 12V	4.7 W/ft		Under Cabinet	
F4	Ceiling mounted fan w/ light fixture	Home Decorators Collection Mercer 52in. LED Indoor Brushed Nickel Ceiling Fan with Light Kit and Remote	120V	14 W		Bedroom	
F5	Surface mounted luminaire for entryway Exterior	Artika Glacier 1-Light LED Wall Sconce	650 lm 3000K Dimmable 120V	9.3 W		Exterior Entry	

1

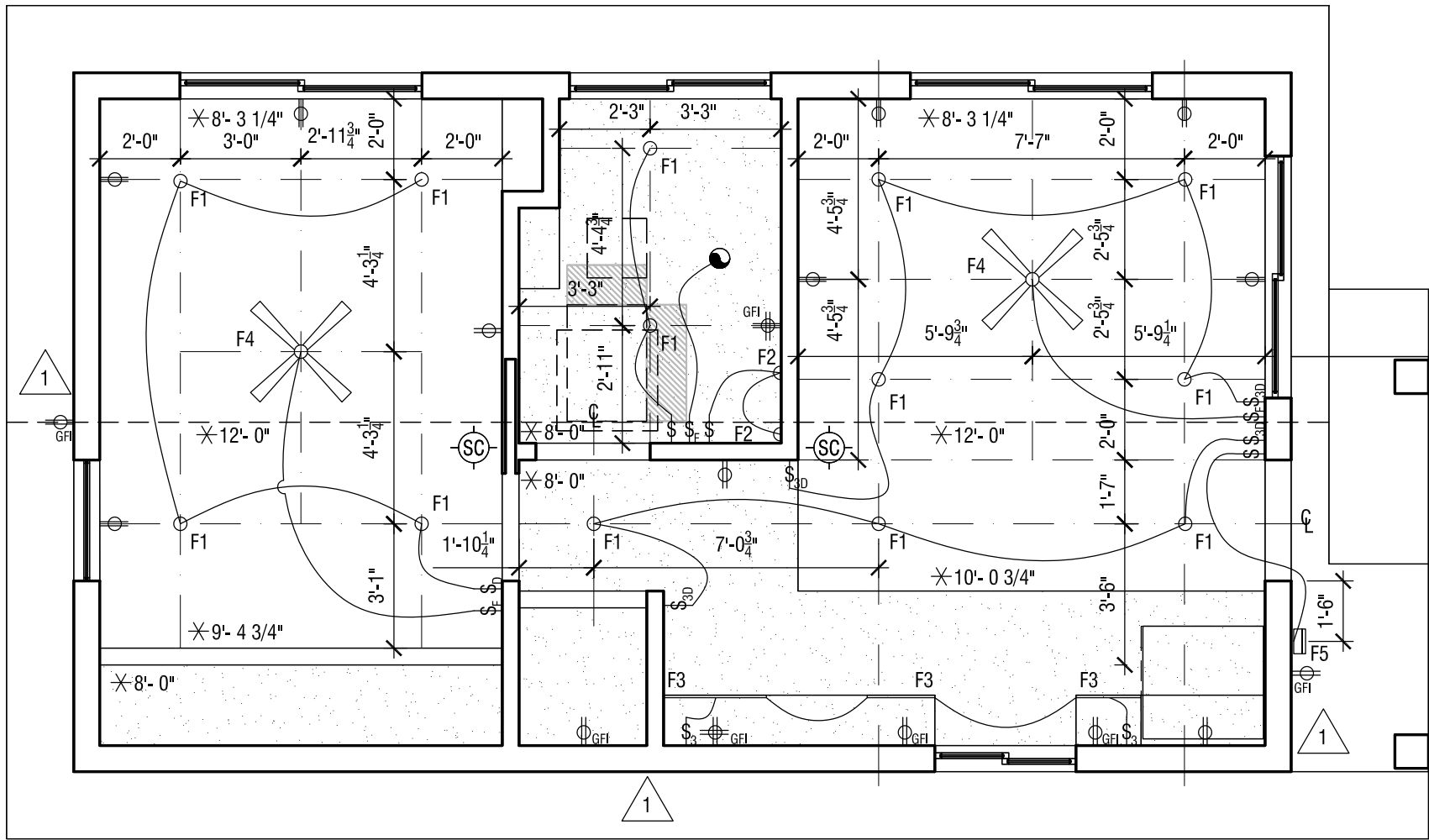
02 LIGHTING SCHEDULE
SCALE: N/A

1

Provide receptacle within 25' and on the same level of mechanical equipment. (CEC section 210.63)

NOTE: Receptacles serving countertops and Work Surfaces:
a) Receptacle outlets shall not be installed in a face up position in the work surfaces.
b) Receptacle outlets shall be located on or above, but not more than 20in. above the countertop or work surface. (CEC section 210.52(C)(5))
c) Receptacle outlets shall be permitted to be mounted not more than 12in. below the countertop or work surface provided the countertop does not extend more than 6 in. beyond its support base. (CEC section 210.52(C)(5) Exception)
d) On island and peninsular countertops, receptacles may be mounted a maximum 12in. below countertop provided there are no back splashes or dividers and no means to mount within 20in. above countertop, such as an overhead cabinet. (CEC section 210.52(C)(5) Exception(2))

NOTE: EXTERIOR ELECTRICAL RECEPTACLE TO BE INSTALLED AT 1'-6" A.F.F. TYPICAL



- CEILING FAN / LIGHT
- KIDDE SAFETY KN-COPE-IC SMOKE AND CARBON MONOXIDE (CO) ALARM
- TELEVISION CABLE
- DATA LINE
- THERMOSTAT
- VERT. DUCT
- DUCT
- UNDERGROUND DUCT
- AIR SUPPLY
- RETURN
- AIR SUPPLY
- RETURN
- TELEPHONE
- TELEPHONE (2 LINE)
- OUTLET
- QUAD OUTLET
- DEDICATED OUTLET
- FLOOR-MOUNTED OUTLET
- SWITCH
- DIMMER SWITCH
- 3-WAY SWITCH
- 3-WAY DIMMER SWITCH
- EXHAUST FAN SWITCH
- RADIANT FLOOR HEATER CONTROL
- LED DOWN LIGHT
- LED DIRECTIONAL DOWN LIGHT
- WALL SCONCE
- PENDANT LIGHT
- LINEAR CABINET UNDERMOUNT LIGHT
- EXTERIOR LIGHT
- EXTERIOR MOTION SENSITIVE LIGHT
- FLUSH MOUNTED CEILING SPEAKER
- EXHAUST FAN
- DAYLIGHT SENSOR
- NOTE:** ALL SWITCHES & OUTLETS TO HAVE SCREWLESS FACEPLATES
- NOTE:** EXTERIOR ELECTRICAL RECEPTACLE TO HAVE WEATHERPROOF COVER
- DROP CEILING
- VAULTED CEILING

ADU PROGRAM

OWNER:

CITY OF FRESNO
PLANNING AND DEVELOPMENT DEPARTMENT
2009 FRESNO STREET, 3RD FLOOR
FRESNO, CA 93721

ARCHITECT:

AARON NEUBERT ARCHITECTS, INC.
2814 ROWENA AVENUE, SUITE ONE
LOS ANGELES, CALIFORNIA 90039
P. 323.953.4700 F. 323.953.4900
AARON NEUBERT C.A.# C-29005

STRUCTURAL ENGINEER:

NOUS ENGINEERING, INC.
600 WILSHIRE BOULEVARD, SUITE 700
LOS ANGELES, CALIFORNIA 90017
P. 313.887.6887

MEP ENGINEER:

INNODEZ DESIGN AND ENGINEERING
726 FORBROUGH PLACE
PLEASANTON, CALIFORNIA 94566
P. 924.414.0987

REVISION: DATE: COMMENT:

ISSUE:

- 2 REVISION #2 06.03.22 PLAN CHECK CORRECTIONS
- 1 REVISION #1 04.04.22 PLAN CHECK CORRECTIONS

SEAL:



Project No. 2104

ADU PROGRAM
CITY OF FRESNO
CALIFORNIA

DRAWING TITLE:

ADU Q2 - CRAFTSMAN
REFLECTED CEILING PLAN
LIGHTING SCHEDULE

DATE: JUNE 3, 2022

SCALE: AS NOTED

DRAWN BY:

CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
FIRE ENGINEERING - BUILDING MATERIALS LISTING PROGRAM
LISTING SERVICE



LISTING No. 7263-16100142 Page 1 of 1
CATEGORY: 7263 -- SMOKE ALARM-COMBINATION SMOKE/CARBON MONOXIDE (PHOTOELECTRIC)
LISTEE: KIDDE SAFETY4920 Centennial Blvd, Suite 145, Colorado Springs, CO 80919
Contact: Larry Ratzlaff (847) 214-1190
Email: larry.ratzlaff@carrier.com
DESIGN: *Model KN-COPE-IC is a 120 VAC powered with a 9 volt backup photoelectric type smoke and electrochemical carbon monoxide (CO) alarm. *Unit is equipped with alarm silence feature and have a 10 year end of life timer. Refer to listee's data sheet for detailed product description and operational considerations.
RATING: Model KN-COPE-IC: 120 VAC with 9 volt backup
Approved batteries: Duracell MN1604 or MX1604, Energizer 522 or Gold Peak 1604A
INSTALLATION: In accordance with listee's printed installation instructions, applicable codes and ordinances and in a manner acceptable to the authority having jurisdiction.
MARKING: Listee's name, model number, electrical rating, and UL label.
APPROVAL: Listed as a single/multiple station photoelectric smoke and electrochemical carbon monoxide (CO) alarm.
NOTE:
1. The photoelectric type alarms are generally more effective at detecting slow, smoldering fires which smolder for hours before bursting into flame. Sources of these fires may include cigarettes burning in couches or bedding. The ionization type alarms are generally more effective at detecting fast, flaming fires which consume combustible materials rapidly and spread quickly. Sources of these fires may include paper burning in a waste container or a grease fire in the kitchen.
2. *Meet the new smoke alarm requirement (SB1394).
3. *Formerly 7257-1610.0142

*Rev. 06-10-15 bh



This listing is based upon technical data submitted by the applicant. CSFM Fire Engineering staff has reviewed the test results and/or other data but does not make an independent verification of any claims. This listing is not an endorsement or recommendation of the item listed. This listing should not be used to verify correct operational requirements or installation criteria. Refer to listee's data sheet, installation instructions and/or other

Date Issued: **July 01, 2021** Listing Expires **June 30, 2022**
Authorized By: **DAVID CASTILLO, M.E., F.P.E.**
Fire Engineering Division

03 SMOKE/ CARBON MONOXIDE ALARM SPECIFICATION
SCALE: N/A

FRESNO ADU

GENERAL NOTES:

- Luminaires shall have appropriate UL or other label as required by local codes.
- Luminaires shall include accessories for installation according to local and national codes.
- Contractor shall verify the following prior to ordering luminaires:
 - locations and recess depths and any structural and other conflicts.
 - final voltages and ceiling trim compatibility.
 - ceilings more than 1/32" thick which limits trim compatibility.
 - luminaires in insulated ceilings, necessitating the need for insulated ceiling type housings.
- Contractor shall provide approved fire-rated enclosures for luminaires located in a fire-rated ceiling.
- Responsibility for emergency lighting, code compliance, and circuiting to meet code conformance remains with the Architect and Electrical Engineer as required by law.
- Contractor shall submit luminaire substitutions prior to bid for review. Contractor shall supply a sample and/or photometric data if requested. If substitution is rejected, Contractor shall provide specified product.
- Luminaire voltages to be determined by Project Electrical Engineer.
- All luminaire sockets shall be labeled permanently, in the factory, with wattages indicated in "Lamp Specification" column, not maximum wattages.

TYPE	DESCRIPTION	LUMINAIRE SPECIFICATION	LAMP SPECIFICATION	INPUT WATTS	LUMINAIRE NOTES	LOCATION	REV. NO.
F1	Downlight Interior	ELCO EL490ICA housing Koto Module with Pex 4" Adjustable Phenolic Baffle	2700K 120V	14 W	White Trim	Typ. Interior	
F2	Surface mounted luminaire for sink/vanity Damp Location	DWELED Slim Nightstick LED Wall Light WS-35819	1276 lm 3000K 120V	17 W		Bathroom	
F3	Under cabinet mounted led luminaire	Commercial Electric 16 ft. White Indoor LED Tape Light with remote 1004 105 594	180 lm/ft 3000K Dimmable 12V	4.7 W/ft		Under Cabinet	
F4	Ceiling mounted fan w/ light fixture	Home Decorators Collection Mercer 52in. LED Indoor Brushed Nickel Ceiling Fan with Light Kit and Remote	120V	14 W		Bedroom	
F5	Surface mounted luminaire for entryway Exterior	Artika Glacier 1-Light LED Wall Sconce	650 lm 3000K Dimmable 120V	9.3 W		Exterior Entry	

1

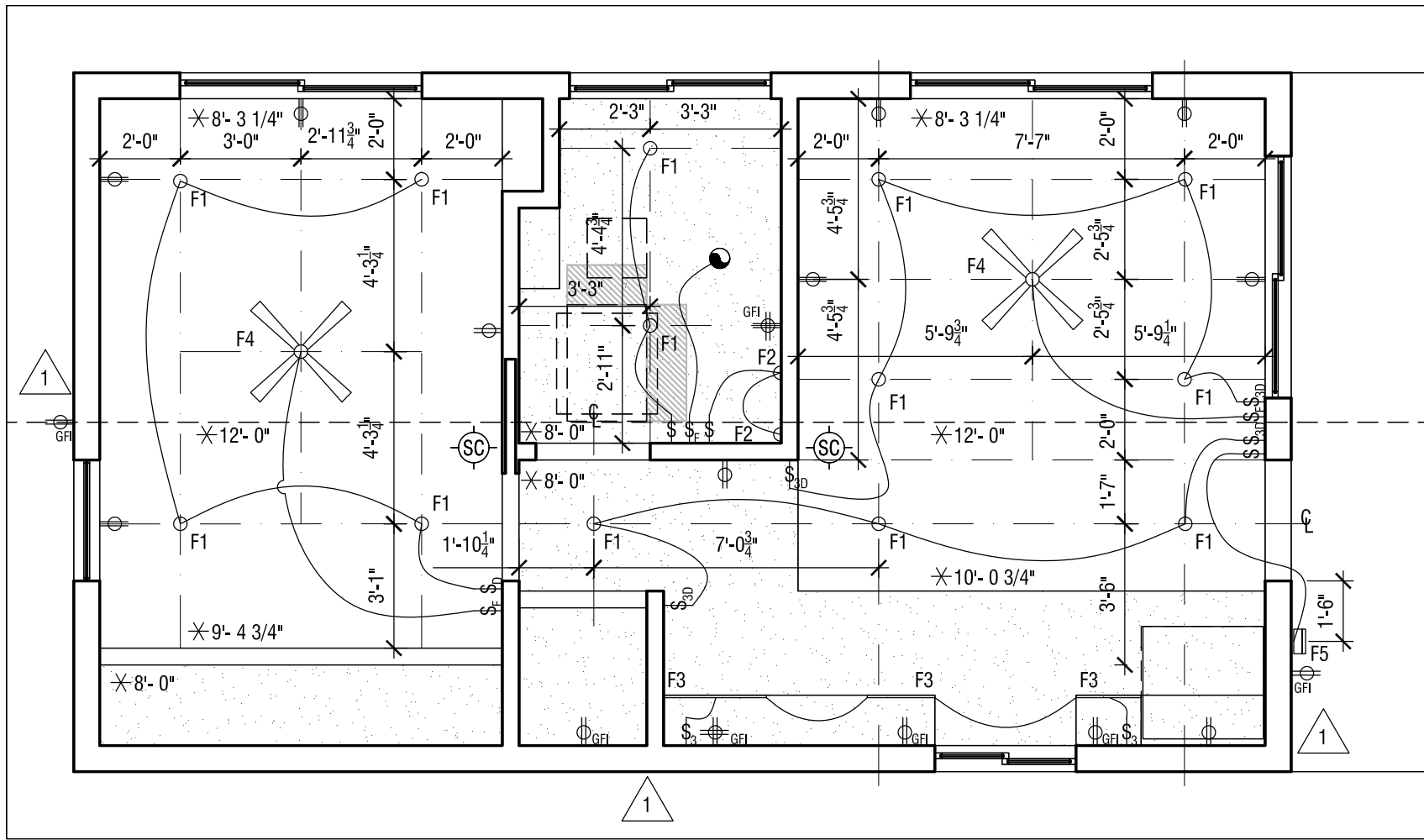
02 LIGHTING SCHEDULE
SCALE: N/A

1

Provide receptacle within 25' and on the same level of mechanical equipment. (CEC section 210.63)

NOTE: Receptacles serving countertops and Work Surfaces:
a) Receptacle outlets shall not be installed in a face up position in the work surfaces.
b) Receptacle outlets shall be located on or above, but not more than 20in. above the countertop or work surface. (CEC section 210.52(C)(5))
c) Receptacle outlets shall be permitted to be mounted not more than 12in. below the countertop or work surface provided the countertop does not extend more than 6 in. beyond its support base. (CEC section 210.52(C)(5) Exception)
d) On island and peninsular countertops, receptacles may be mounted a maximum 12in. below countertop provided there are no back splashes or dividers and no means to mount within 20in. above countertop, such as an overhead cabinet. (CEC section 210.52(C)(5) Exception(2))

NOTE: EXTERIOR ELECTRICAL RECEPTACLE TO BE INSTALLED AT 1'-6" A.F.F. TYPICAL



01 REFLECTED CEILING PLAN
SCALE: 1/4"=1'-0"

- CEILING FAN / LIGHT
 - KIDDE SAFETY KN-COPE-IC SMOKE AND CARBON MONOXIDE (CO) ALARM
 - TELEVISION CABLE
 - DATA LINE
 - THERMOSTAT
 - VERT. DUCT
 - DUCT
 - UNDERGROUND DUCT
 - AIR SUPPLY
 - RETURN
 - AIR SUPPLY
 - RETURN
 - TELEPHONE
 - TELEPHONE (2 LINE)
 - OUTLET
 - QUAD OUTLET
 - DEDICATED OUTLET
 - FLOOR-MOUNTED OUTLET
 - SWITCH
 - DIMMER SWITCH
 - 3-WAY SWITCH
 - 3-WAY DIMMER SWITCH
 - EXHAUST FAN SWITCH
 - RADIANT FLOOR HEATER CONTROL
 - LED DOWN LIGHT
 - LED DIRECTIONAL DOWN LIGHT
 - WALL SCONCE
 - PENDANT LIGHT
 - LINEAR CABINET UNDERMOUNT LIGHT
 - EXTERIOR LIGHT
 - EXTERIOR MOTION SENSITIVE LIGHT
 - FLUSH MOUNTED CEILING SPEAKER
 - EXHAUST FAN
 - DAYLIGHT SENSOR
- NOTE:** ALL SWITCHES & OUTLETS TO HAVE SCREWLESS FACEPLATES
- NOTE:** EXTERIOR ELECTRICAL RECEPTACLE TO HAVE WEATHERPROOF COVER
- DROP CEILING
 - VAULTED CEILING

ADU PROGRAM

OWNER:

CITY OF FRESNO
PLANNING AND DEVELOPMENT DEPARTMENT
2000 FRESNO STREET, 3RD FLOOR
FRESNO, CA 93721

ARCHITECT:

AARON NEUBERT ARCHITECTS, INC.
2814 ROWENA AVENUE, SUITE ONE
LOS ANGELES, CALIFORNIA 90039
P. 323.955.4700 F. 323.955.4900
AARON NEUBERT C.A.# C-29005

STRUCTURAL ENGINEER:

NOUS ENGINEERING, INC.
600 WILSHIRE BOULEVARD, SUITE 700
LOS ANGELES, CALIFORNIA 90017
P. 313.887.6867

MEP ENGINEER:

INNODEZ DESIGN AND ENGINEERING
726 FORBROUGH PLACE
PLEASANTON, CALIFORNIA 94566
P. 924.414.0967

REVISION: DATE: COMMENT:

ISSUE:

- 2 REVISION #2 06.03.22 PLAN CHECK CORRECTIONS
- 1 REVISION #1 04.04.22 PLAN CHECK CORRECTIONS

SEAL:



Project No. 2104

ADU PROGRAM
CITY OF FRESNO
CALIFORNIA

DRAWING TITLE:

ADU 02 - GABLE
REFLECTED CEILING PLAN
LIGHTING SCHEDULE

DATE: JUNE 3, 2022

SCALE: AS NOTED

DRAWN BY:

CALIFORNIA DEPARTMENT OF FORESTRY & FIRE PROTECTION
OFFICE OF THE STATE FIRE MARSHAL
FIRE ENGINEERING - BUILDING MATERIALS LISTING PROGRAM
LISTING SERVICE



LISTING No. 7263-16100142 Page 1 of 1
CATEGORY: 7263 -- SMOKE ALARM-COMBINATION SMOKE/CARBON MONOXIDE (PHOTOELECTRIC)
LISTEE: KIDDE SAFETY4920 Centennial Blvd, Suite 145, Colorado Springs, CO 80919
Contact: Larry Ratzlaff (847) 214-1190
Email: larry.ratzlaff@carrier.com
DESIGN: *Model KN-COPE-IC is a 120 VAC powered with a 9 volt backup photoelectric type smoke and electrochemical carbon monoxide (CO) alarm. *Unit is equipped with alarm silence feature and have a 10 year end of life timer. Refer to listee's data sheet for detailed product description and operational considerations.
RATING: Model KN-COPE-IC: 120 VAC with 9 volt backup
Approved batteries: Duracell MN1604 or MX1604, Energizer 522 or Gold Peak 1604A
INSTALLATION: In accordance with listee's printed installation instructions, applicable codes and ordinances and in a manner acceptable to the authority having jurisdiction.
MARKING: Listee's name, model number, electrical rating, and UL label.
APPROVAL: Listed as a single/multiple station photoelectric smoke and electrochemical carbon monoxide (CO) alarm.
NOTE:
1. The photoelectric type alarms are generally more effective at detecting slow, smoldering fires which smolder for hours before bursting into flame. Sources of these fires may include cigarettes burning in couches or bedding. The ionization type alarms are generally more effective at detecting fast, flaming fires which consume combustible materials rapidly and spread quickly. Sources of these fires may include paper burning in a waste container or a grease fire in the kitchen.
2. *Meet the new smoke alarm requirement (SB1394).
3. *Formerly 7257-1610.0142

*Rev. 06-10-15 bh



This listing is based upon technical data submitted by the applicant. CSFM Fire Engineering staff has reviewed the test results and/or other data but does not make an independent verification of any claims. This listing is not an endorsement or recommendation of the item listed. This listing should not be used to verify correct operational requirements or installation criteria. Refer to listee's data sheet, installation instructions and/or other

Date Issued: **July 01, 2021** Listing Expires **June 30, 2022**
Authorized By: **DAVID CASTILLO, M.E., F.P.E.**
Fire Engineering Division

03 SMOKE/ CARBON MONOXIDE ALARM SPECIFICATION
SCALE: N/A

FRESNO ADU

GENERAL NOTES:

- Luminaires shall have appropriate UL or other label as required by local codes.
- Luminaires shall include accessories for installation according to local and national codes.
- Contractor shall verify the following prior to ordering luminaires:
 - locations and recess depths and any structural and other conflicts.
 - final voltages and ceiling trim compatibility.
 - ceilings more than 1/32" thick which limits trim compatibility.
 - luminaires in insulated ceilings, necessitating the need for insulated ceiling type housings.
- Contractor shall provide approved fire-rated enclosures for luminaires located in a fire-rated ceiling.
- Responsibility for emergency lighting, code compliance, and circuiting to meet code conformance remains with the Architect and Electrical Engineer as required by law.
- Contractor shall submit luminaire substitutions prior to bid for review. Contractor shall supply a sample and/or photometric data if requested. If substitution is rejected, Contractor shall provide specified product.
- Luminaire voltages to be determined by Project Electrical Engineer.
- All luminaire sockets shall be labeled permanently, in the factory, with wattages indicated in "Lamp Specification" column, not maximum wattages.

TYPE	DESCRIPTION	LUMINAIRE SPECIFICATION	LAMP SPECIFICATION	INPUT WATTS	LUMINAIRE NOTES	LOCATION	REV. NO.
F1	Downlight Interior	ELCO EL490ICA housing Koto Module with Pex 4" Adjustable Phenolic Baffle	2700K 120V	14 W	White Trim	Typ. Interior	
F2	Surface mounted luminaire for sink/ vanity Damp Location	DWELED Slim Nightstick LED Wall Light WS-35819	1276 lm 3000K 120V	17 W		Bathroom	
F3	Under cabinet mounted led luminaire	Commercial Electric 16 ft. White Indoor LED Tape Light with remote 1004 105 594	180 lm/ft 3000K Dimmable 12V	4.7 W/ft		Under Cabinet	
F4	Ceiling mounted fan w/ light fixture	Home Decorators Collection Mercer 52in. LED Indoor Brushed Nickel Ceiling Fan with Light Kit and Remote	120V	14 W		Bedroom	
F5	Surface mounted luminaire for entryway Exterior	Artika Glacier 1-Light LED Wall Sconce	650 lm 3000K Dimmable 120V	9.3 W		Exterior Entry	

1

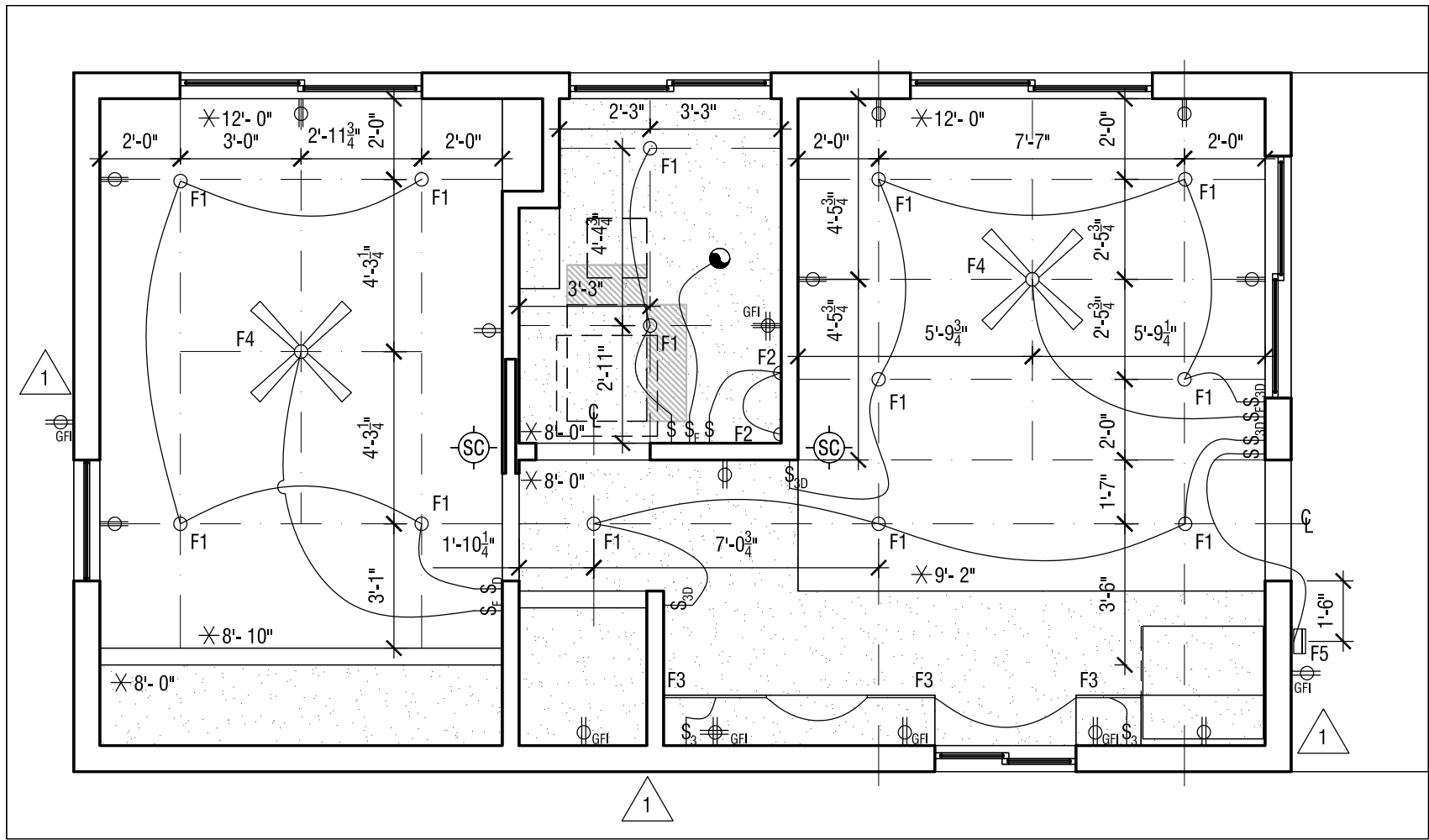
02 LIGHTING SCHEDULE
SCALE: N/A

1

Provide receptacle within 25' and on the same level of mechanical equipment. (CEC section 210.63)

NOTE: Receptacles serving countertops and Work Surfaces:
a) Receptacle outlets shall not be installed in a face up position in the work surfaces.
b) Receptacle outlets shall be located on or above, but not more than 20in. above the countertop or work surface. (CEC section 210.52(C)(5))
c) Receptacle outlets shall be permitted to be mounted not more than 12in. below the countertop or work surface provided the countertop does not extend more than 6 in. beyond its support base. (CEC section 210.52(C)(5) Exception)
d) On island and peninsular countertops, receptacles may be mounted a maximum 12in. below countertop provided there are no back splashes or dividers and no means to mount within 20in. above countertop, such as an overhead cabinet. (CEC section 210.52(C)(5) Exception(2))

NOTE: EXTERIOR ELECTRICAL RECEPTACLE TO BE INSTALLED AT 1'-6" A.F.F. TYPICAL



1

01 REFLECTED CEILING PLAN
SCALE: 1/4"=1'-0"

- CEILING FAN / LIGHT
 - KIDDE SAFETY, KN-COPE-IC SMOKE AND CARBON MONOXIDE (CO) ALARM
 - TELEVISION CABLE
 - DATA LINE
 - THERMOSTAT
 - VERT. DUCT
 - DUCT
 - UNDERGROUND DUCT
 - AIR SUPPLY
 - RETURN
 - AIR SUPPLY
 - RETURN
 - TELEPHONE
 - TELEPHONE (2 LINE)
 - OUTLET
 - QUAD OUTLET
 - DEDICATED OUTLET
 - FLOOR-MOUNTED OUTLET
 - SWITCH
 - DIMMER SWITCH
 - 3-WAY SWITCH
 - 3-WAY DIMMER SWITCH
 - EXHAUST FAN SWITCH
 - RADIANT FLOOR HEATER CONTROL
 - LED DOWN LIGHT
 - LED DIRECTIONAL DOWN LIGHT
 - WALL SCONCE
 - PENDANT LIGHT
 - LINEAR CABINET UNDERMOUNT LIGHT
 - EXTERIOR LIGHT
 - EXTERIOR MOTION SENSITIVE LIGHT
 - FLUSH MOUNTED CEILING SPEAKER
 - EXHAUST FAN
 - DAYLIGHT SENSOR
- NOTE:** ALL SWITCHES & OUTLETS TO HAVE SCREWLESS FACEPLATES
- NOTE:** EXTERIOR ELECTRICAL RECEPTACLE TO HAVE WEATHERPROOF COVER
- DROP CEILING
 - VAULTED CEILING

ADU PROGRAM

OWNER: CITY OF FRESNO
PLANNING AND DEVELOPMENT DEPARTMENT
2009 FRESNO STREET, 3RD FLOOR
FRESNO, CA 93721
ARCHITECT: AARON NEUBERT ARCHITECTS, INC.
2814 ROWENA AVENUE, SUITE ONE
LOS ANGELES, CALIFORNIA 90039
P. 323.953.4700 F. 323.953.4900
AARON NEUBERT C.A.# C-29005
STRUCTURAL ENGINEER: NOUS ENGINEERING, INC.
600 WILSHIRE BOULEVARD, SUITE 700
LOS ANGELES, CALIFORNIA 90017
P. 313.887.6867
MEP ENGINEER: INNODEZ DESIGN AND ENGINEERING
726 FORBROUGH PLACE
PLEASANTON, CALIFORNIA 94566
P. 924.414.0967

REVISION: DATE: COMMENT:
ISSUE:
2 REVISION #2 06.03.22 PLAN CHECK CORRECTIONS
1 REVISION #1 04.04.22 PLAN CHECK CORRECTIONS



Project No. 2104
ADU PROGRAM
CITY OF FRESNO
CALIFORNIA

DRAWING TITLE:
ADU Q2 - CONTEMPORARY REFLECTED CEILING PLAN LIGHTING SCHEDULE

DATE: **JUNE 3, 2022**
SCALE: **AS NOTED**
DRAWN BY:

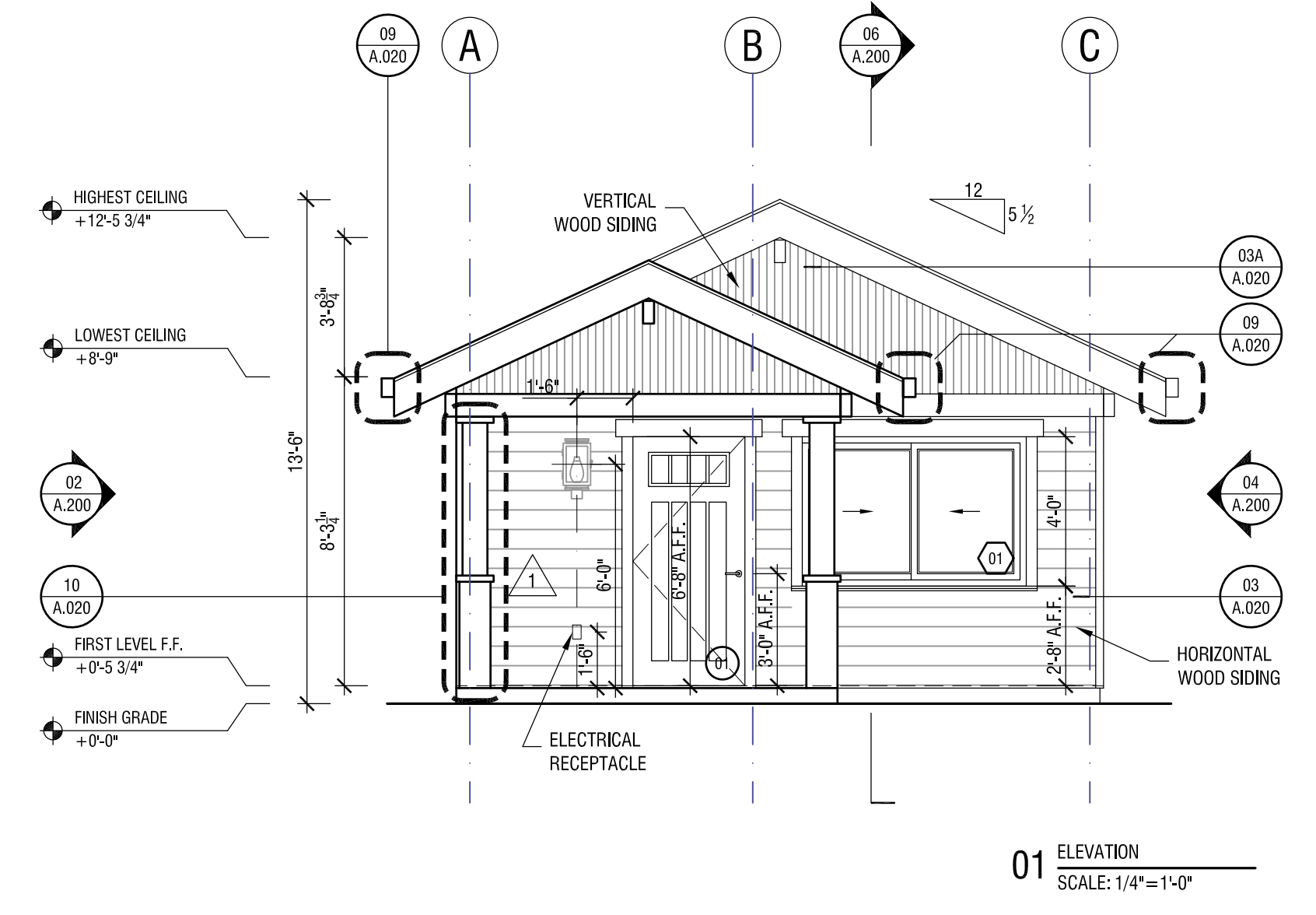
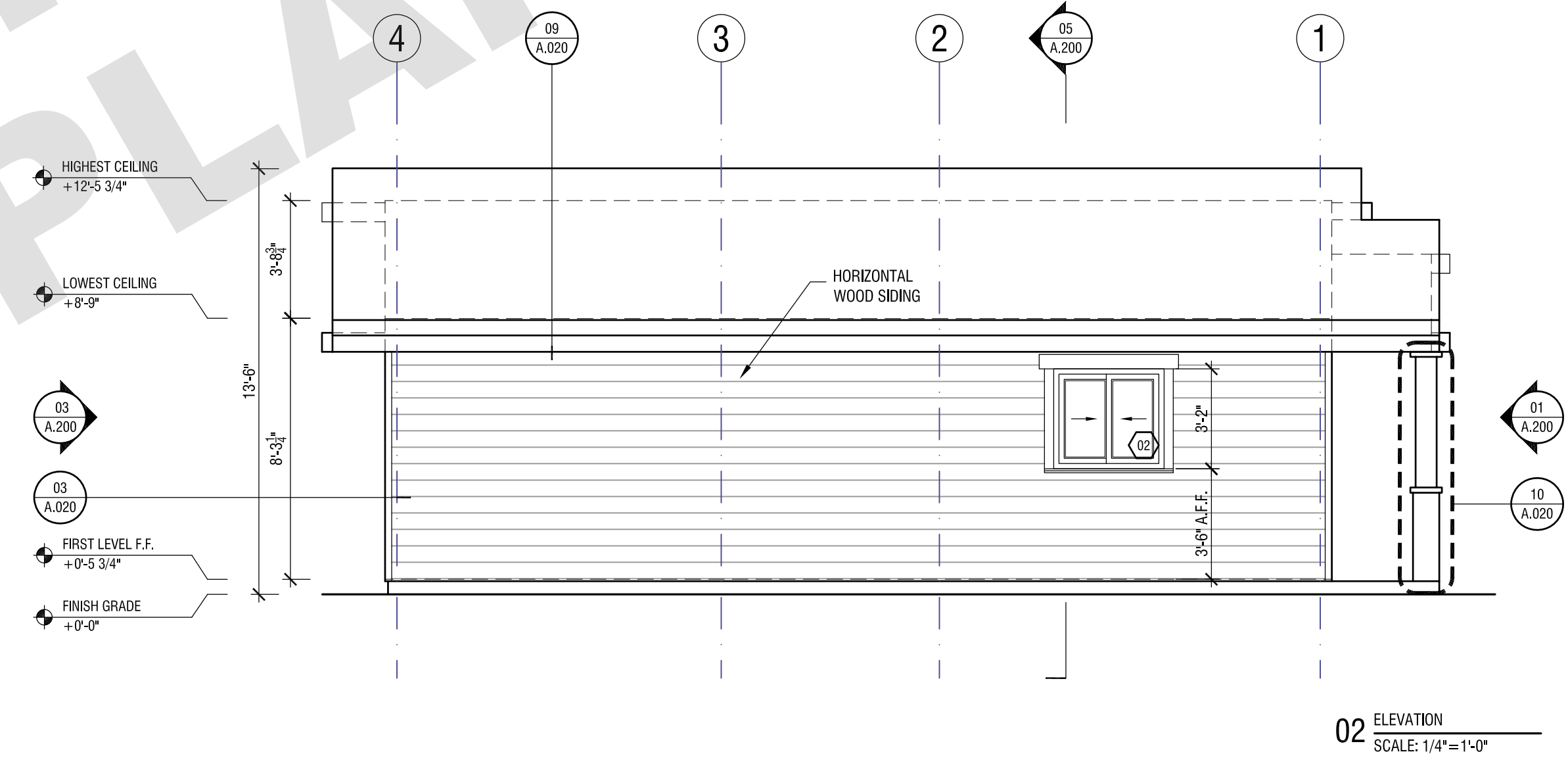
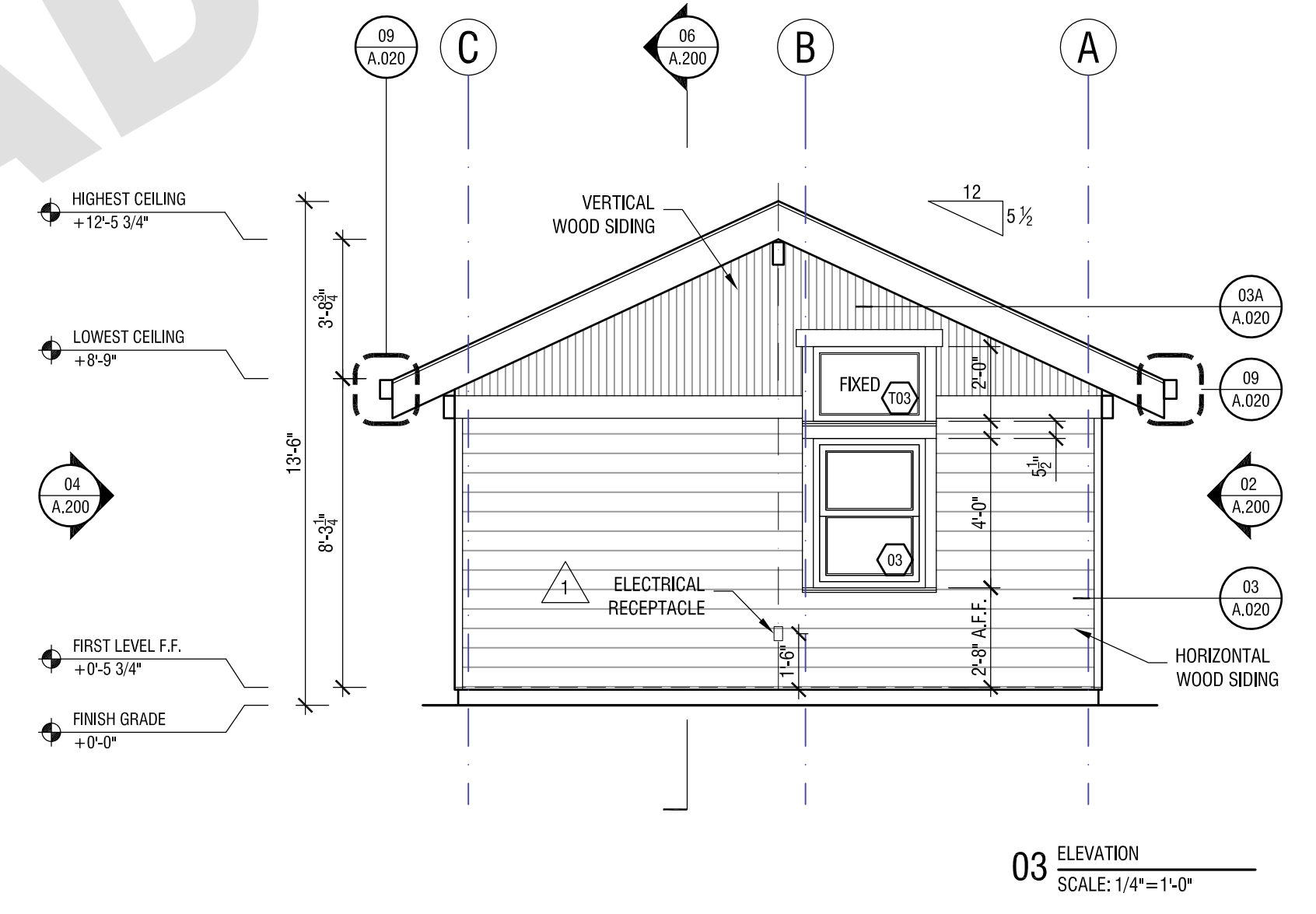
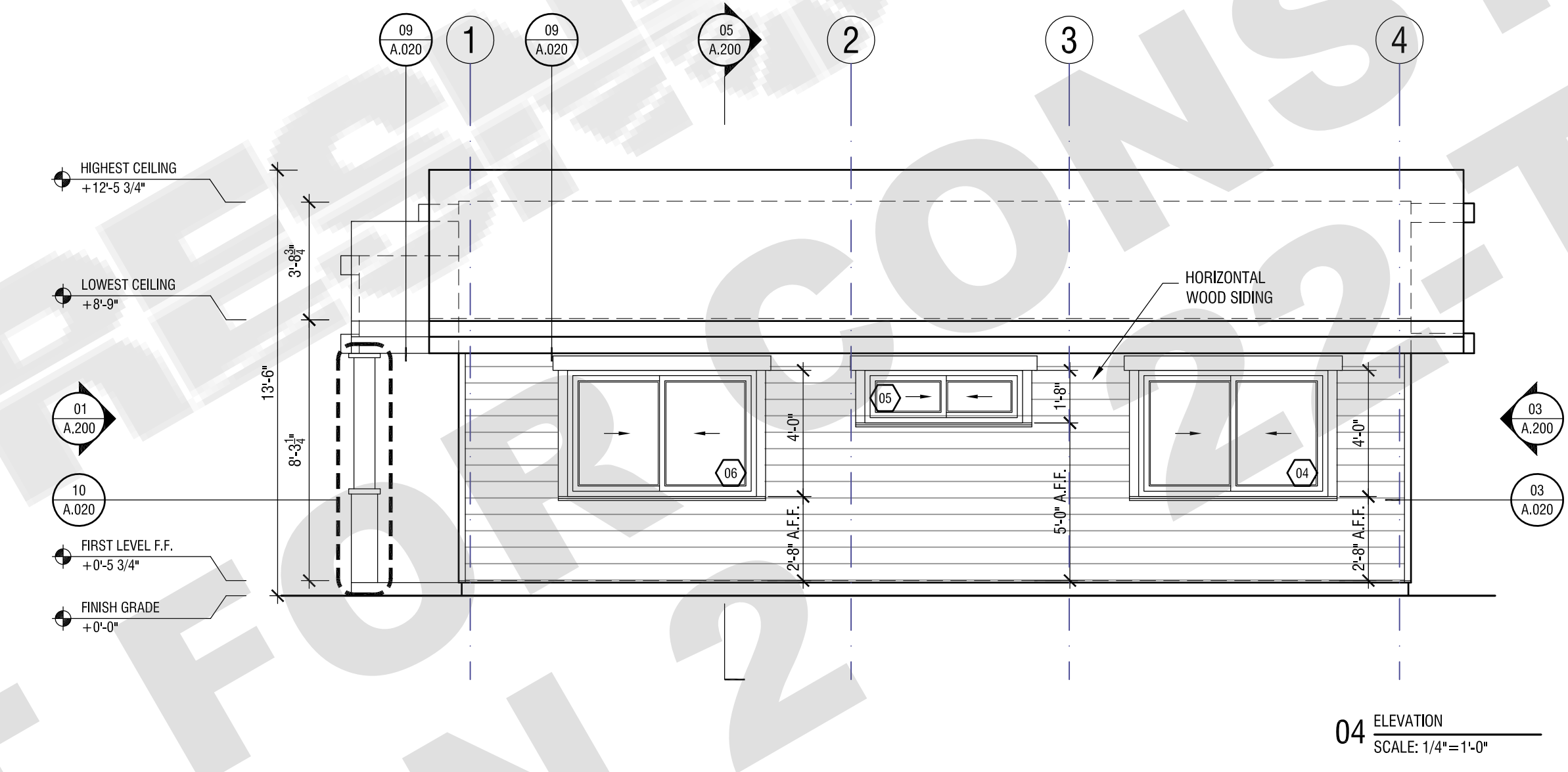
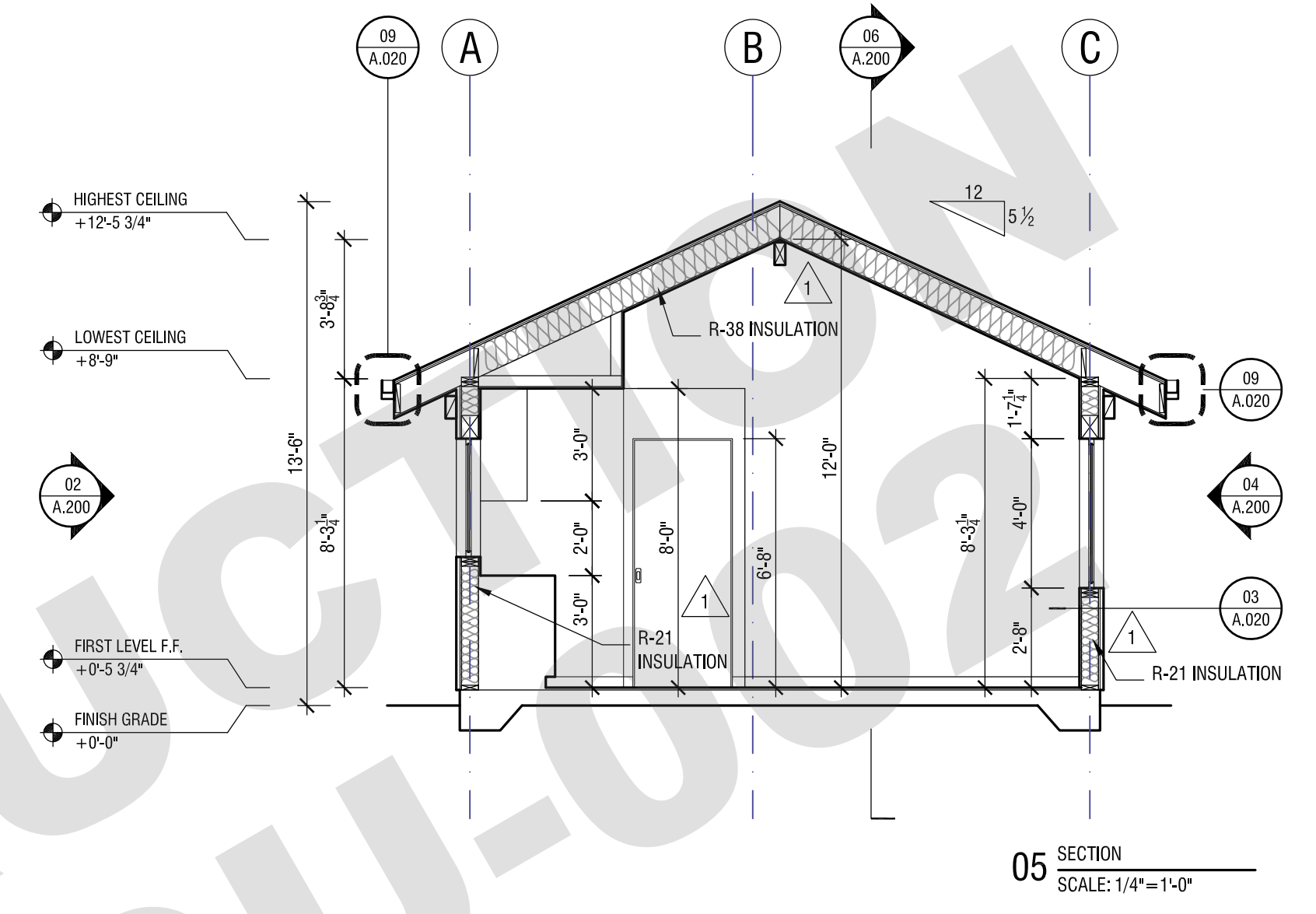
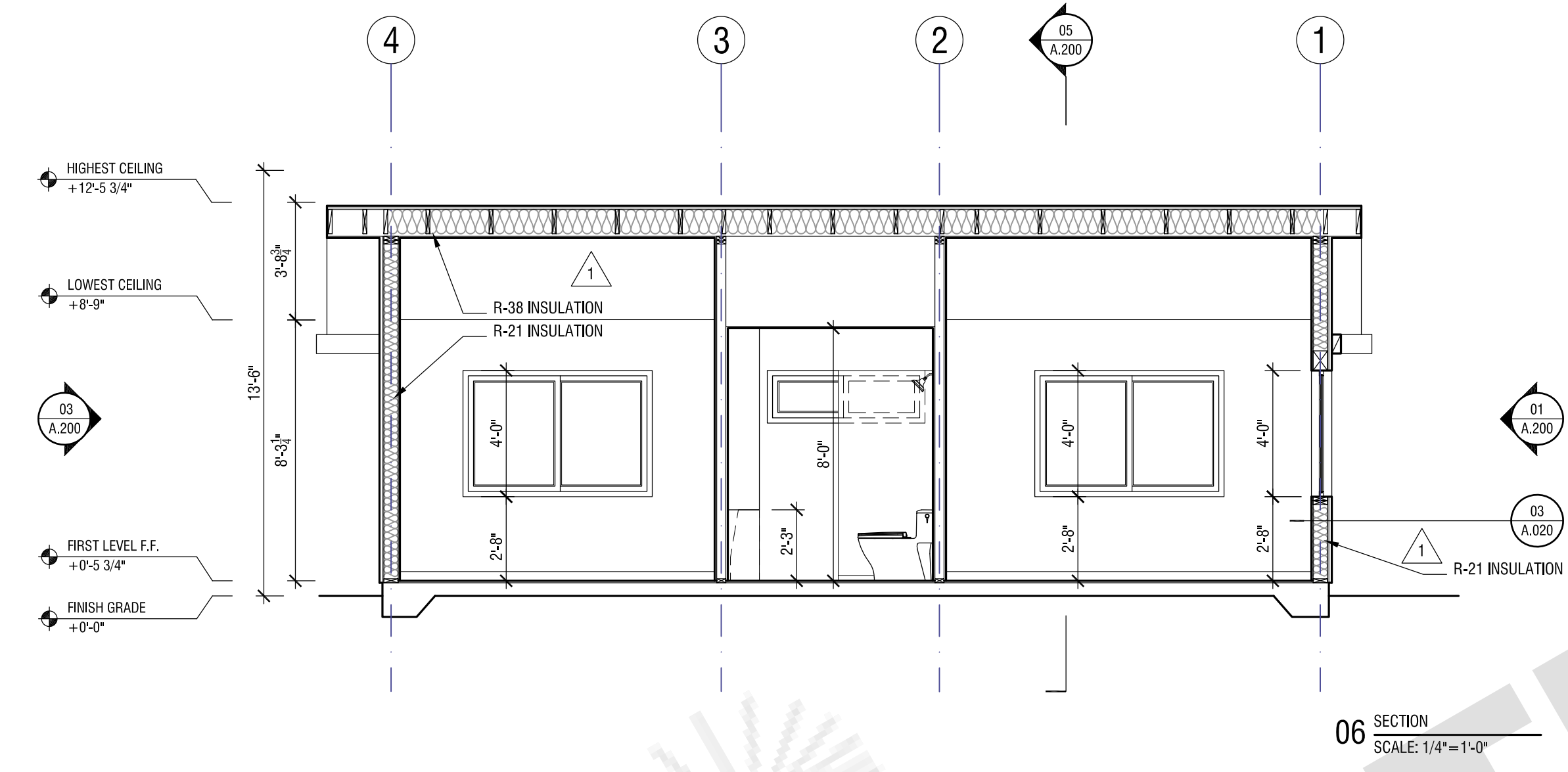
ADU PROGRAM

OWNER:
CITY OF FRESNO
PLANNING AND DEVELOPMENT DEPARTMENT
2000 FRESNO STREET, 3RD FLOOR
FRESNO, CA 93721

ARCHITECT:
AARON NEUBERT ARCHITECTS, INC.
2814 ROWENA AVENUE, SUITE ONE
LOS ANGELES, CALIFORNIA 90039
P. 323.953.4700 T. 323.953.4900
AARON NEUBERT CA# C-29005

STRUCTURAL ENGINEER:
NOUS ENGINEERING, INC.
600 WILSHIRE BOULEVARD, SUITE 700
LOS ANGELES, CALIFORNIA 90017
P. 313.887.6887

MEP ENGINEER:
INNODEZ DESIGN AND ENGINEERING
726 FORBROUGH PLACE
PLEASANTON, CALIFORNIA 94566
P. 924.414.0987



REVISION:	DATE:	COMMENT:
2	REVISION #2 06.03.22	PLAN CHECK CORRECTIONS
1	REVISION #1 04.04.22	PLAN CHECK CORRECTIONS



Project No: 2104
ADU PROGRAM
CITY OF FRESNO
CALIFORNIA

DRAWING TITLE:
**ADU 02 - CRAFTSMAN
ELEVATIONS
SECTIONS**

DATE: JUNE 3, 2022
SCALE: 1/4"=1'-0"
DRAWN BY:

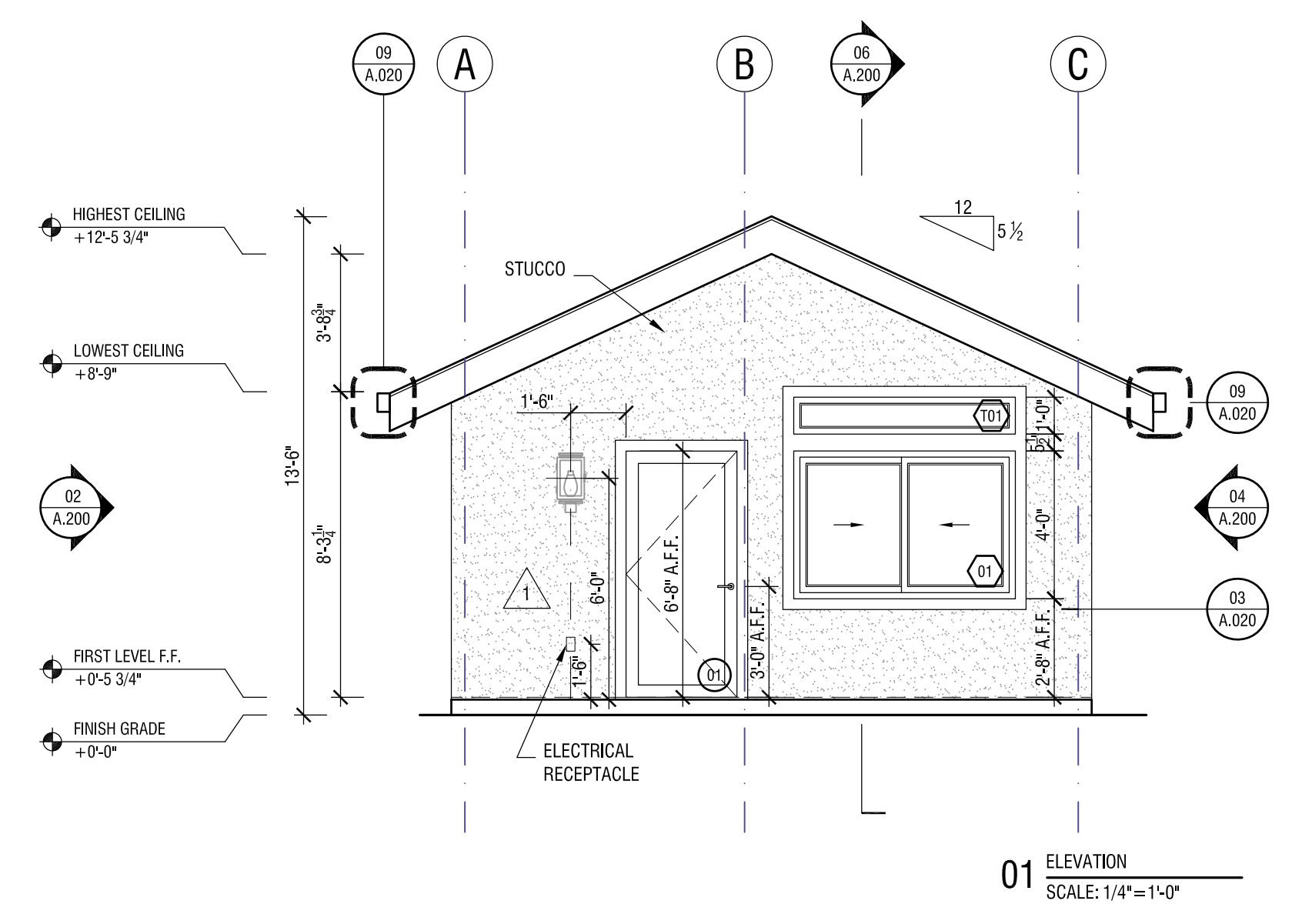
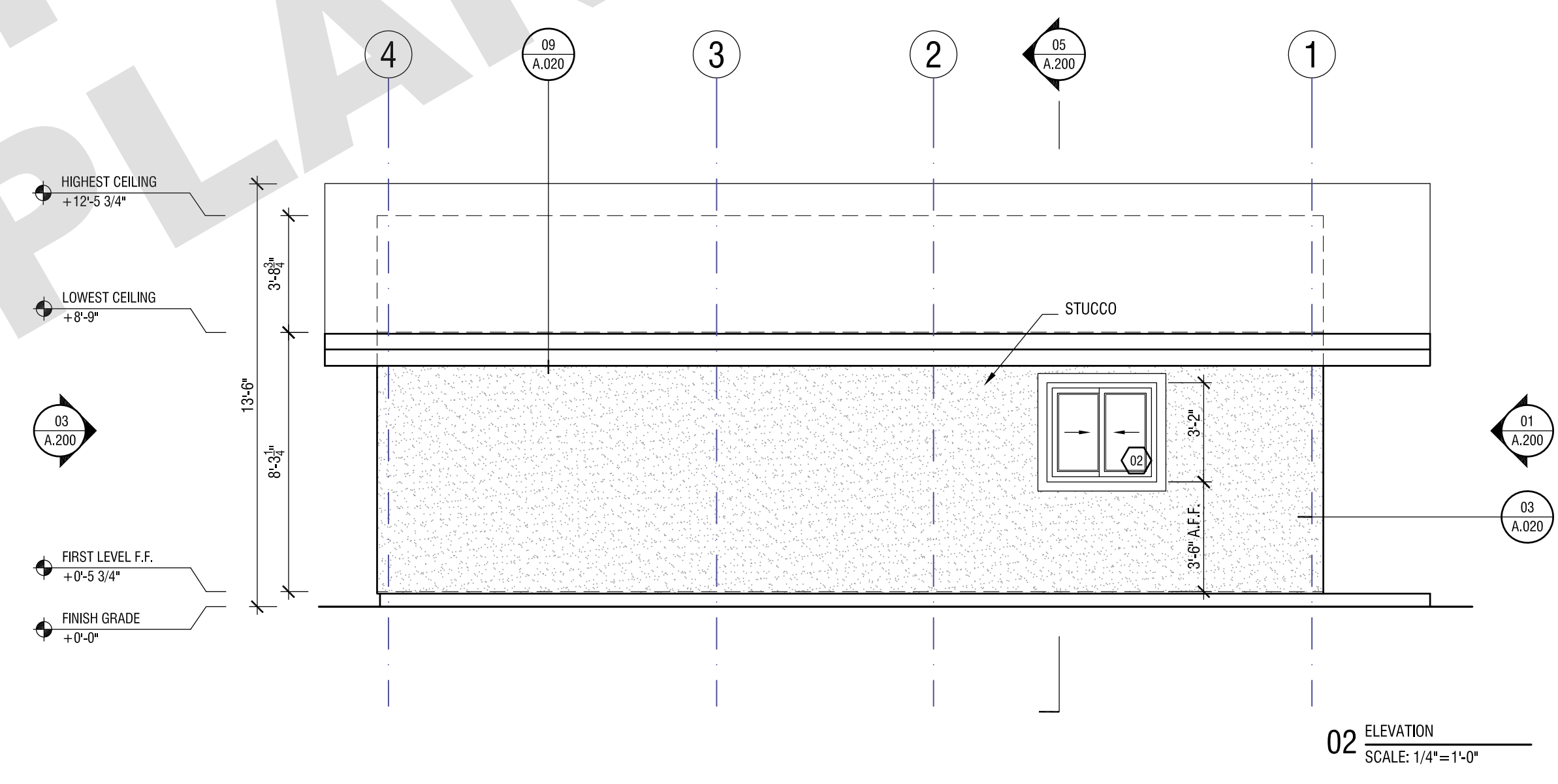
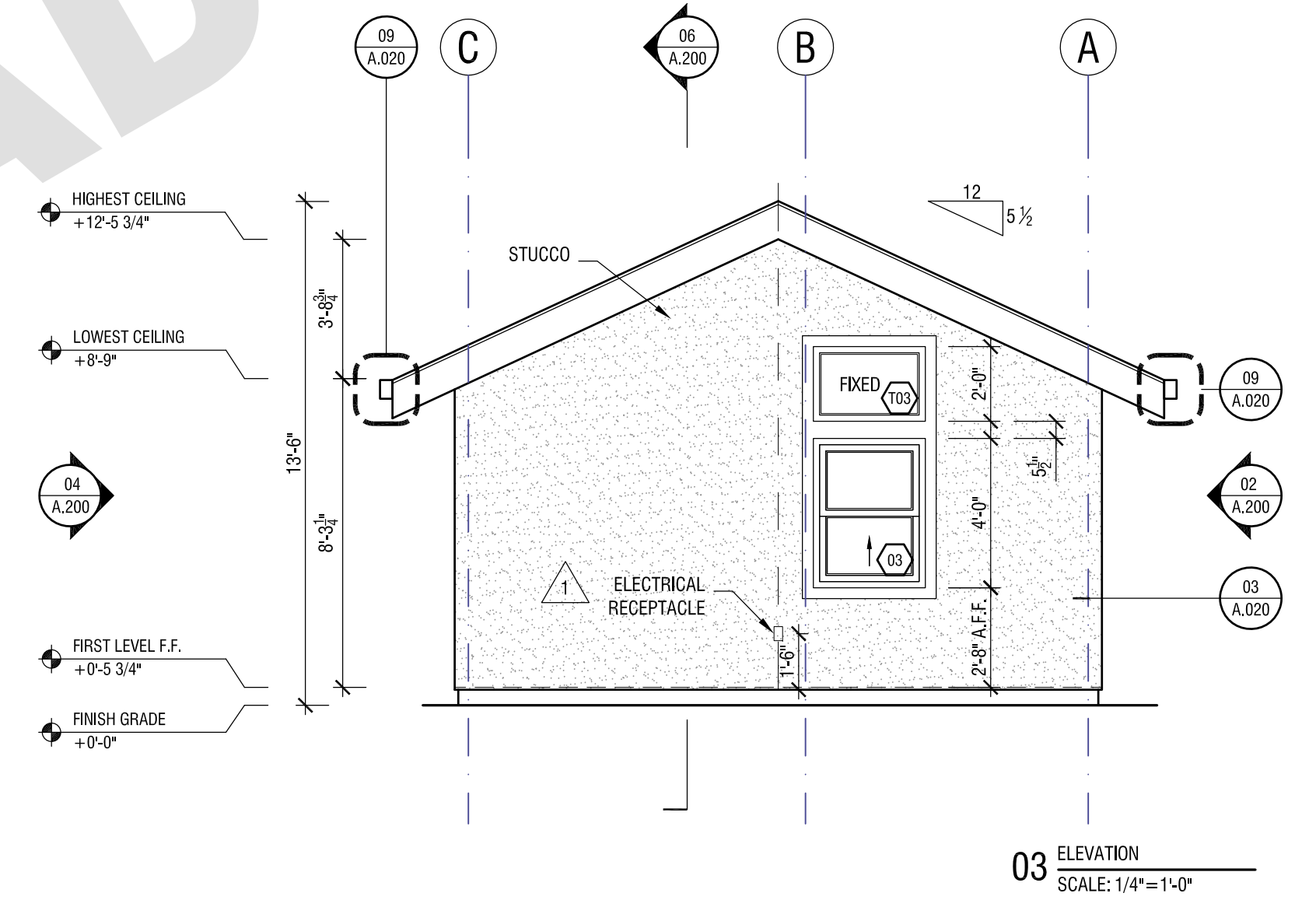
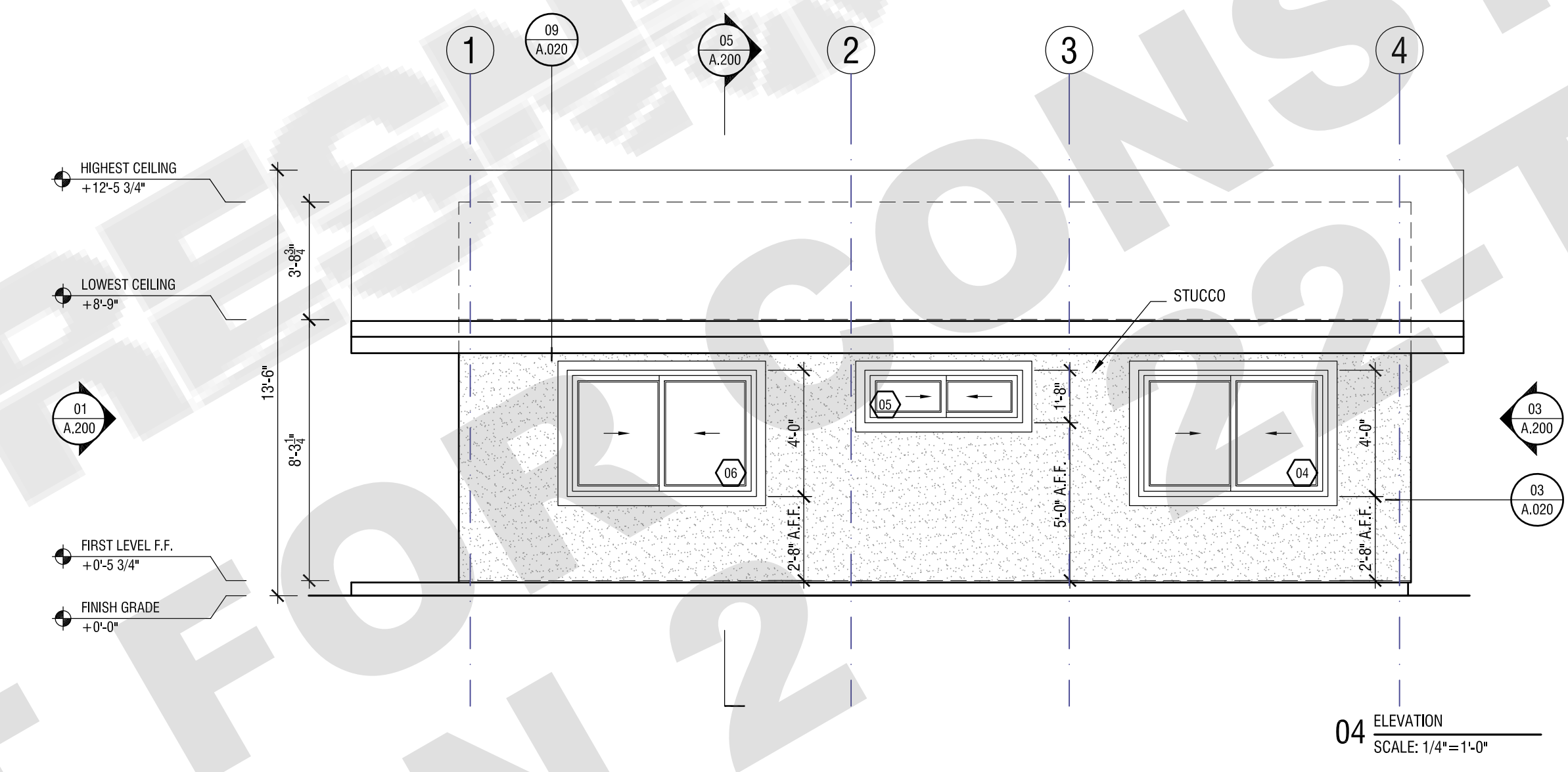
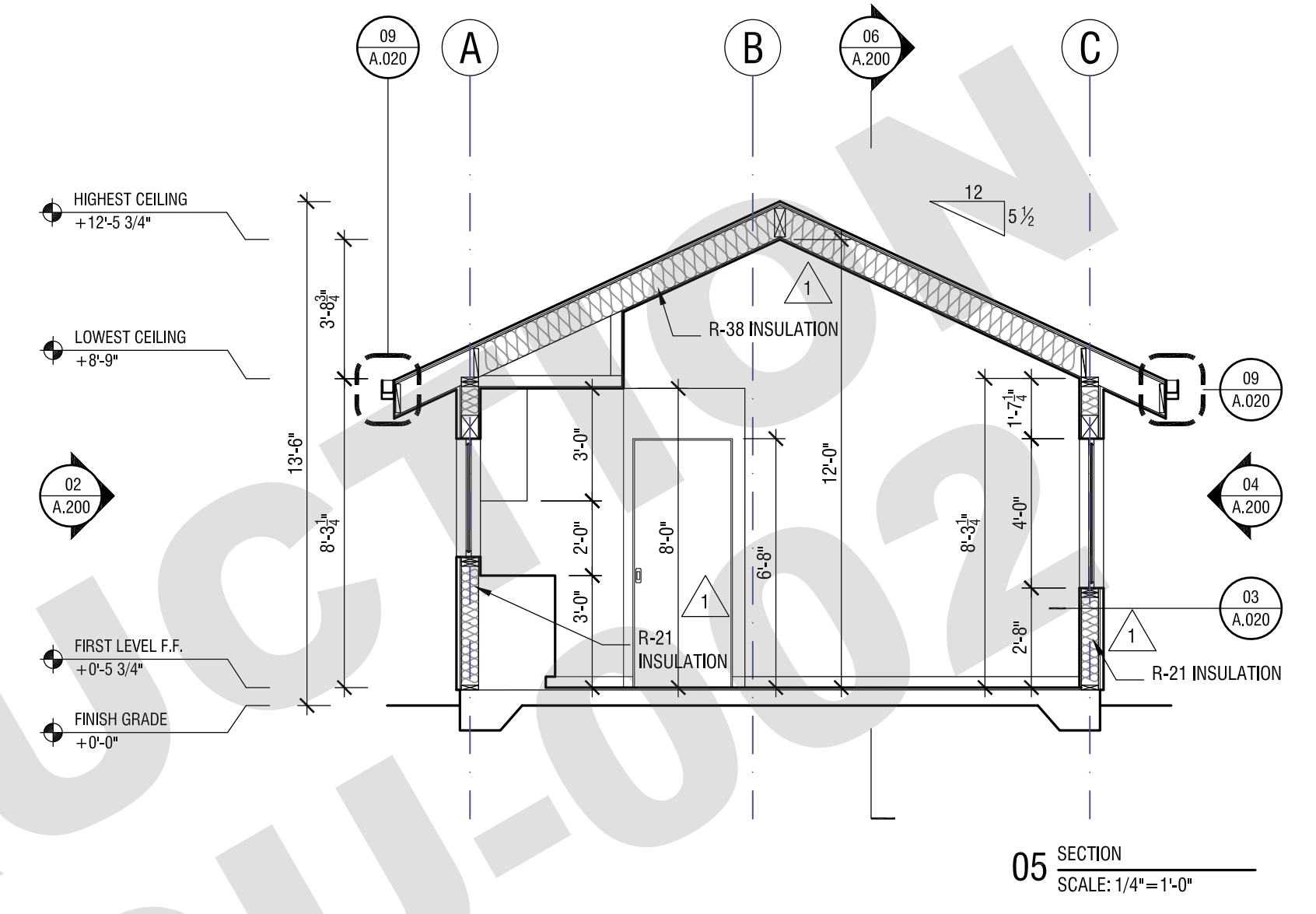
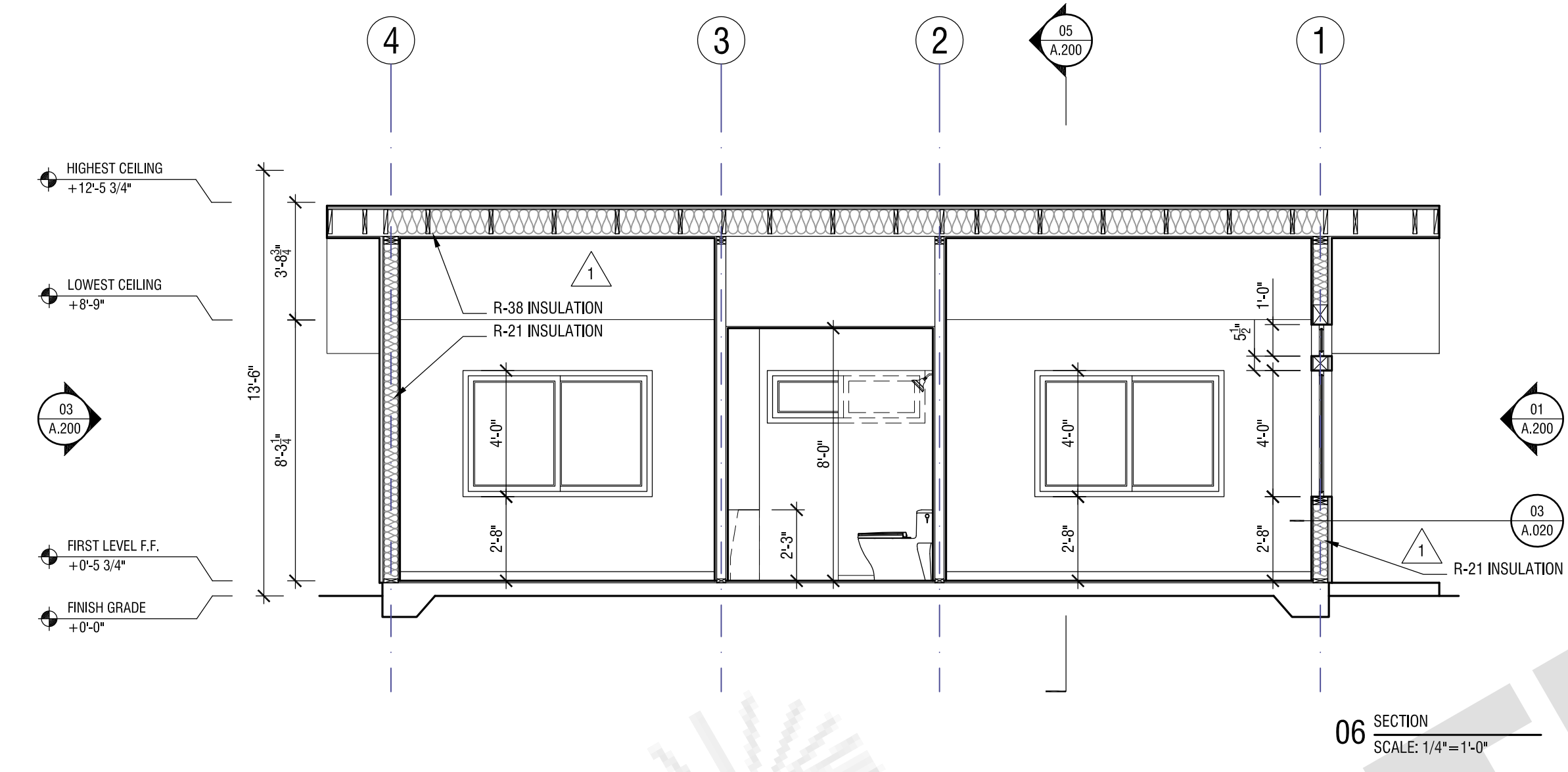
ADU PROGRAM

OWNER:
CITY OF FRESNO
PLANNING AND DEVELOPMENT DEPARTMENT
2000 FRESNO STREET, 3RD FLOOR
FRESNO, CA 93721

ARCHITECT:
AARON NEUBERT ARCHITECTS, INC.
2814 ROWENA AVENUE, SUITE ONE
LOS ANGELES, CALIFORNIA 90039
P. 323.953.4700 T. 323.953.4900
AARON NEUBERT CAP C-29005

STRUCTURAL ENGINEER:
NOUS ENGINEERING, INC.
600 WILSHIRE BOULEVARD, SUITE 700
LOS ANGELES, CALIFORNIA 90017
P. 313.887.6887

MEP ENGINEER:
INNODEZ DESIGN AND ENGINEERING
726 FORBROUGH PLACE
PLEASANTON, CALIFORNIA 94566
P. 924.414.0967



REVISION:	DATE:	COMMENT:
2	REVISION #2 06.03.22	PLAN CHECK CORRECTIONS
1	REVISION #1 04.04.22	PLAN CHECK CORRECTIONS



Project No: 2104
ADU PROGRAM
CITY OF FRESNO
CALIFORNIA

DRAWING TITLE:
**ADU 02 - GABLE
ELEVATIONS
SECTIONS**

DATE: JUNE 3, 2022
SCALE: 1/4"=1'-0"
DRAWN BY:

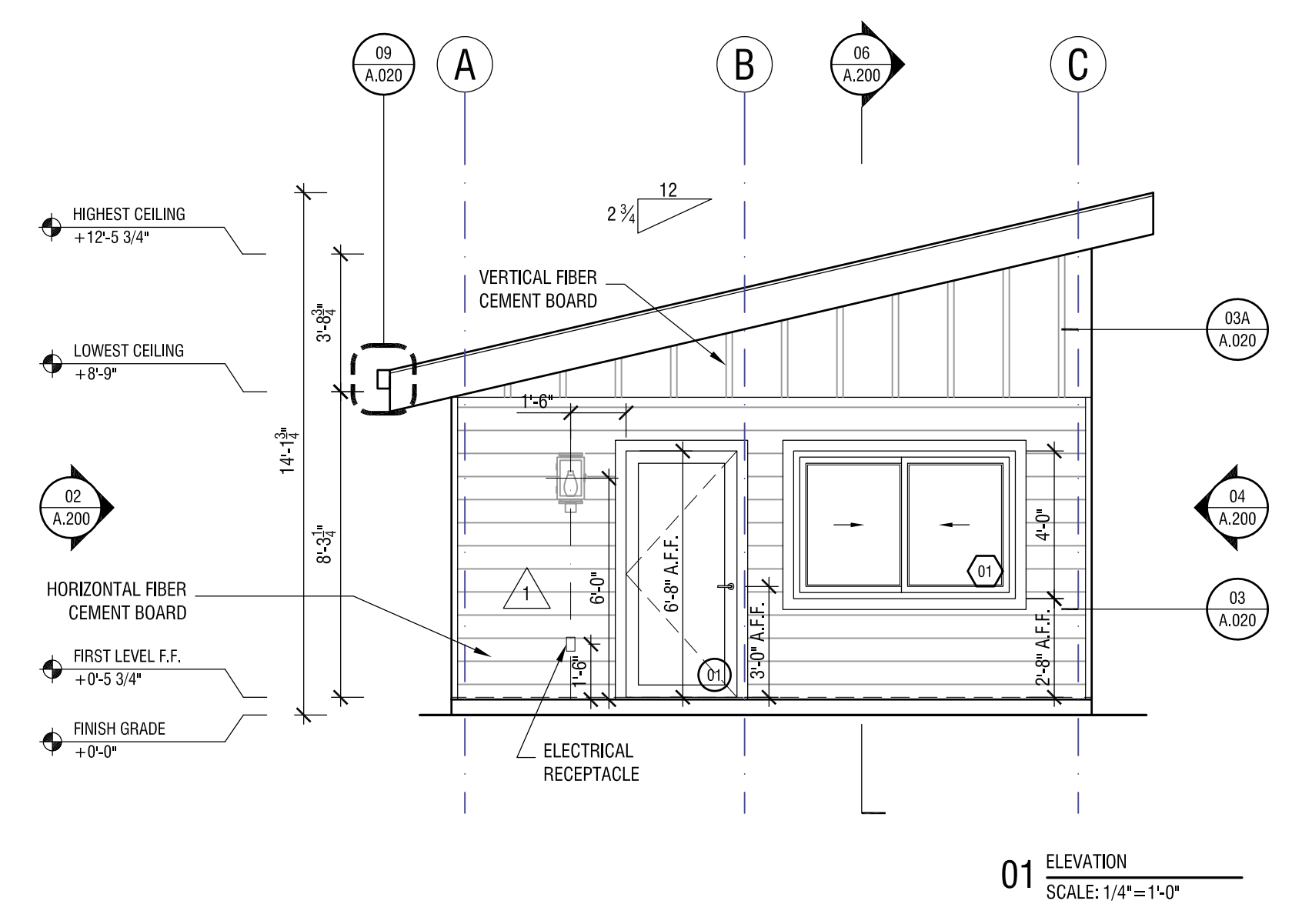
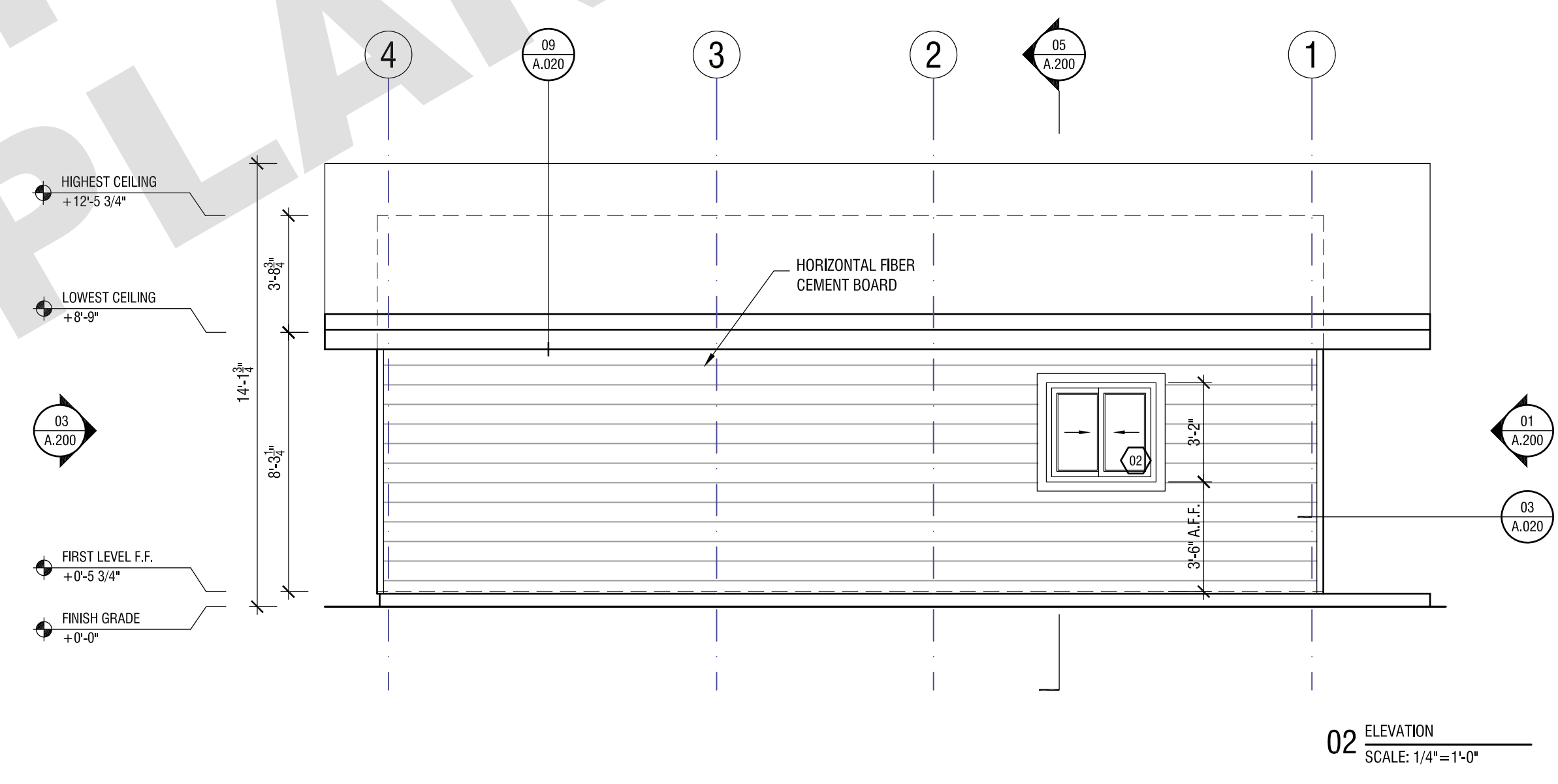
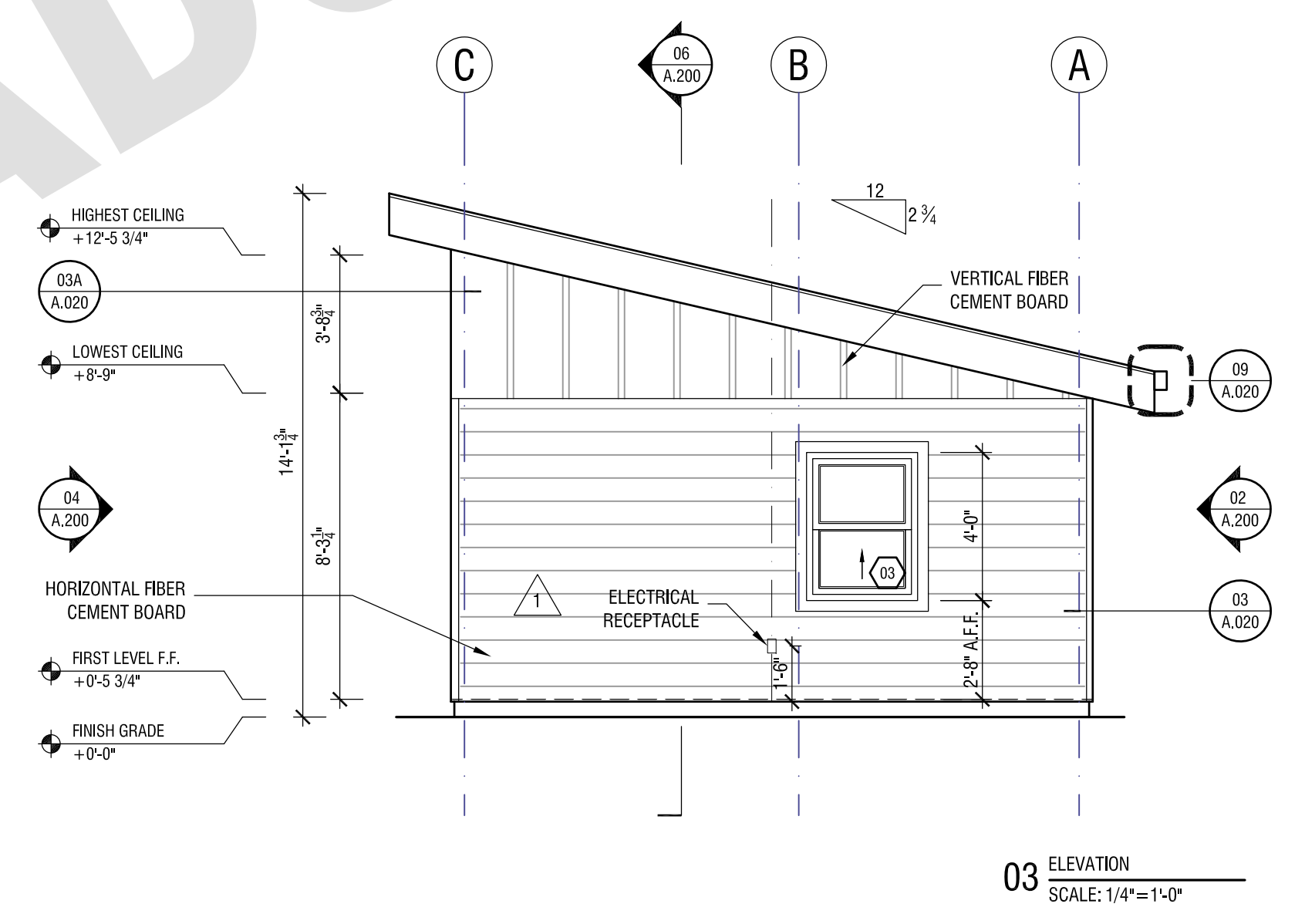
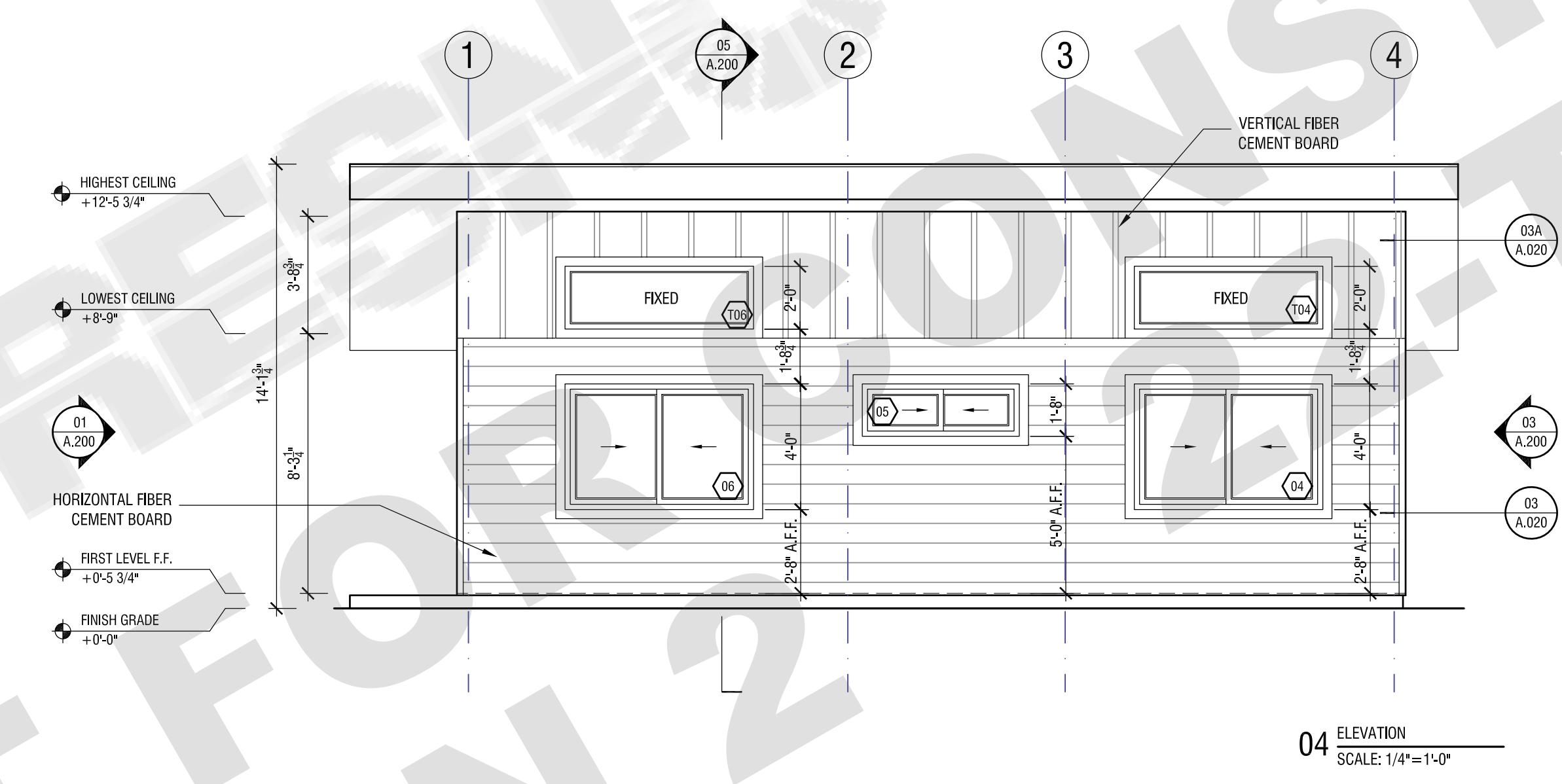
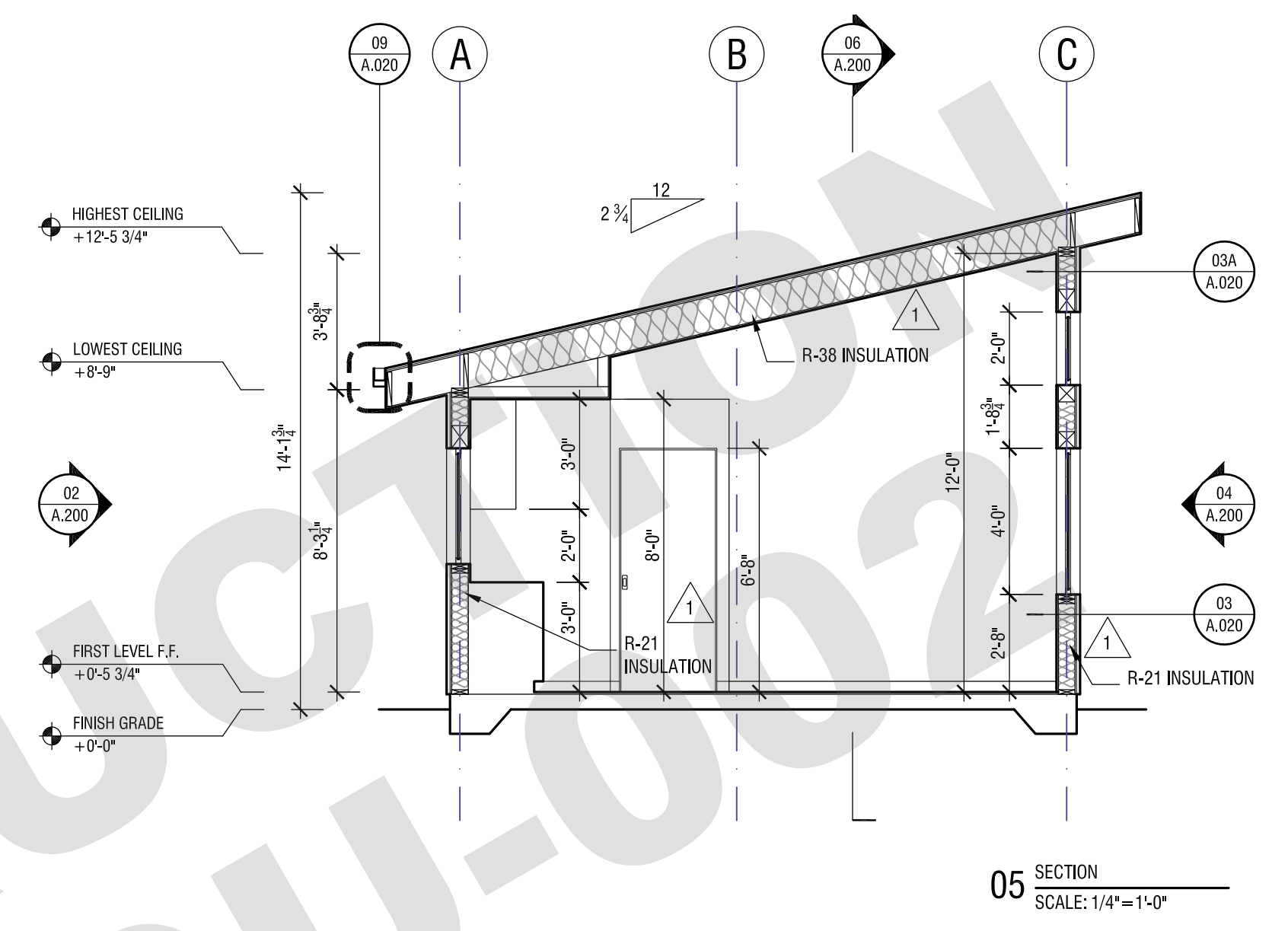
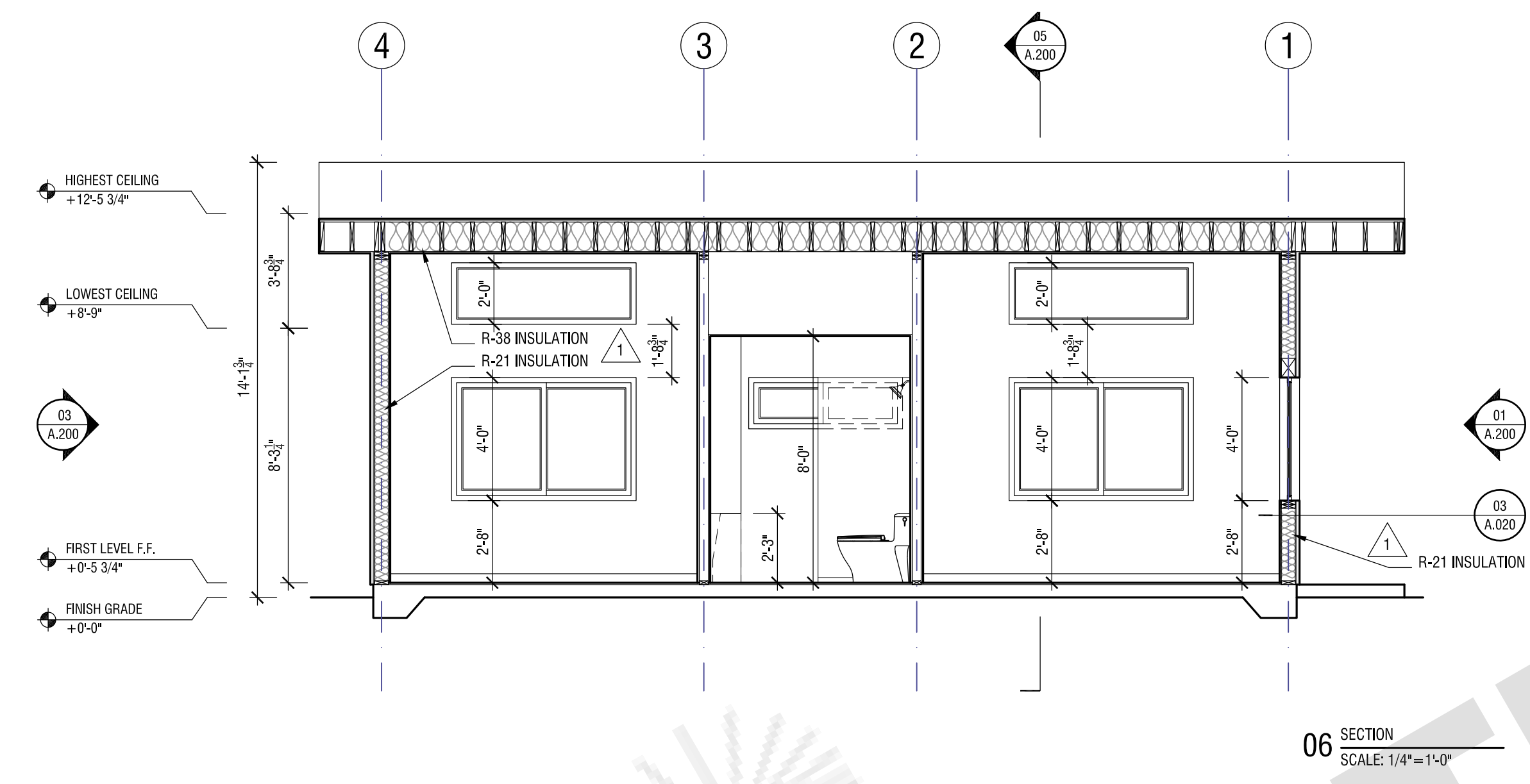
ADU PROGRAM

OWNER:
CITY OF FRESNO
PLANNING AND DEVELOPMENT DEPARTMENT
2000 FRESNO STREET, 3RD FLOOR
FRESNO, CA 93721

ARCHITECT:
AARON NEUBERT ARCHITECTS, INC.
2814 ROWENA AVENUE, SUITE ONE
LOS ANGELES, CALIFORNIA 90039
P. 323.953.4700 F. 323.953.4900
AARON NEUBERT CA# C-29005

STRUCTURAL ENGINEER:
NOUS ENGINEERING, INC.
600 WILSHIRE BOULEVARD, SUITE 700
LOS ANGELES, CALIFORNIA 90017
P. 313.887.6887

MEP ENGINEER:
INNODEZ DESIGN AND ENGINEERING
726 FORBROUGH PLACE
PLEASANTON, CALIFORNIA 94566
P. 924.414.0987



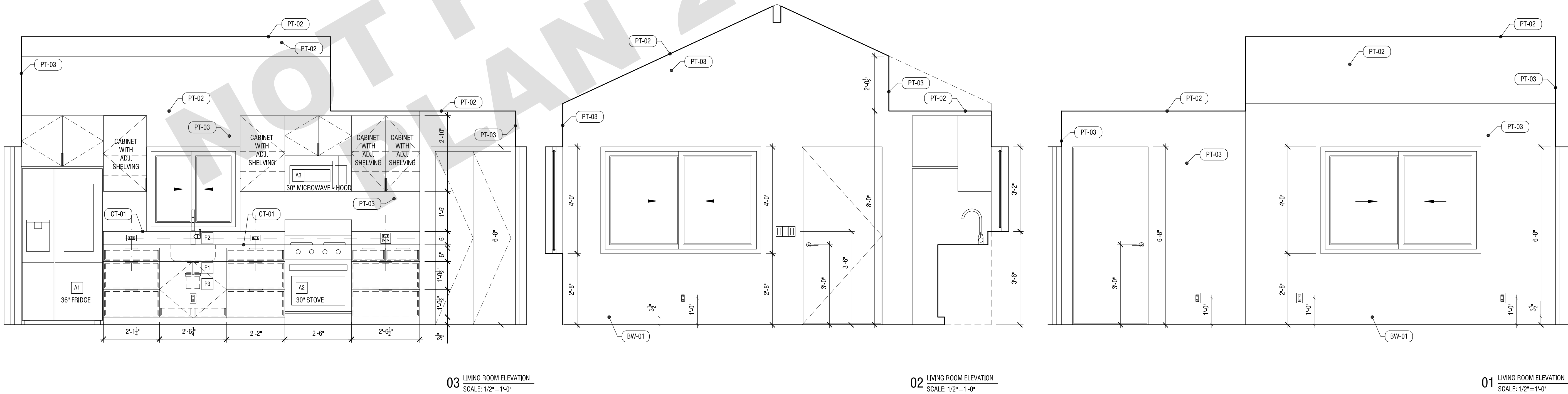
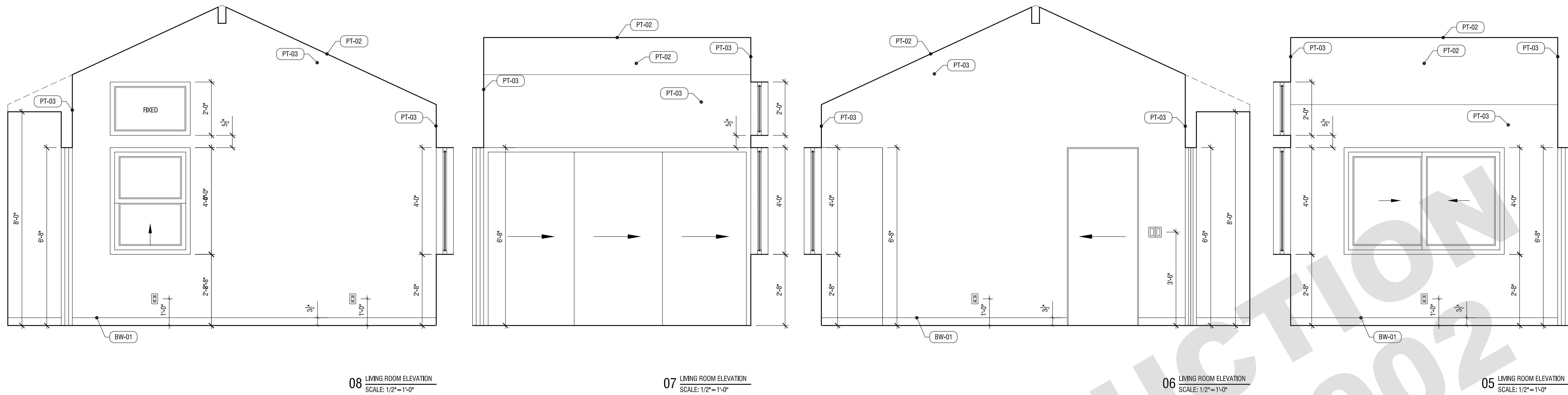
REVISION:	DATE:	COMMENT:
2	06.03.22	PLAN CHECK CORRECTIONS
1	04.04.22	PLAN CHECK CORRECTIONS



Project No. 2104
ADU PROGRAM
CITY OF FRESNO
CALIFORNIA

DRAWING TITLE:
**ADU 02 - CONTEMPORARY
ELEVATIONS
SECTIONS**

DATE: JUNE 3, 2022
SCALE: 1/4"=1'-0"
DRAWN BY:



ADU PROGRAM

OWNER:

CITY OF FRESNO
PLANNING AND DEVELOPMENT DEPARTMENT
2000 FRESNO STREET, 3RD FLOOR
FRESNO, CA 93721

ARCHITECT:

AARON NEUBERT ARCHITECTS, INC.
2814 ROWENA AVENUE, SUITE ONE
LOS ANGELES, CALIFORNIA 90039
P. 323.953.4700 F. 323.953.4900
AARON NEUBERT CA# C-29005

STRUCTURAL ENGINEER:

NOUS ENGINEERING, INC.
600 WILSHIRE BOULEVARD, SUITE 700
LOS ANGELES, CALIFORNIA 90017
P. 313.827.6887

MEP ENGINEER:

INNODEZ DESIGN AND ENGINEERING
726 FOXBOROUGH PLACE
PLEASANTON, CALIFORNIA 94566
P. 924.414.0987

REVISION: DATE: COMMENT:

ISSUE:

2 REVISION #2 06.03.22 PLAN CHECK CORRECTIONS
1 REVISION #1 04.04.22 PLAN CHECK CORRECTIONS

SEAL:



Project No. 2104
ADU PROGRAM
CITY OF FRESNO
CALIFORNIA

DRAWING TITLE:
ADU 02 - CRAFTSMAN
INTERIOR ELEVATIONS

DATE: JUNE 3, 2022

SCALE: 1/2"=1'-0"

DRAWN BY:

© Aaron Neubert Architects, INC. 2022

A.401c

ADU PROGRAM

OWNER:

CITY OF FRESNO
PLANNING AND DEVELOPMENT DEPARTMENT
2000 FRESNO STREET, 3RD FLOOR
FRESNO, CA 93721

ARCHITECT:

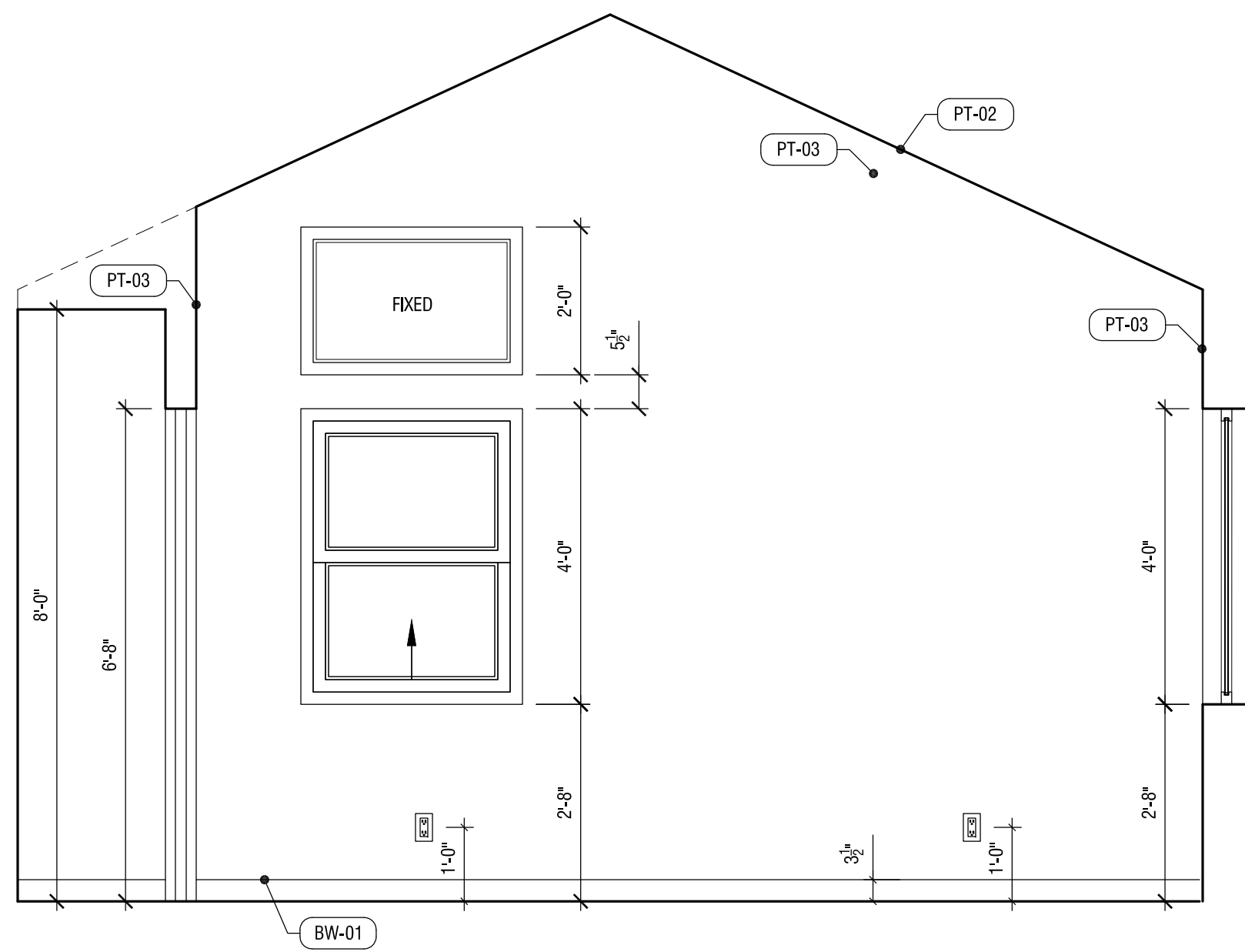
AARON NEUBERT ARCHITECTS, INC.
2814 ROWENA AVENUE, SUITE ONE
LOS ANGELES, CALIFORNIA 90039
P. 323.953.4700 F. 323.953.4900
AARON NEUBERT C.A.# C-29005

STRUCTURAL ENGINEER:

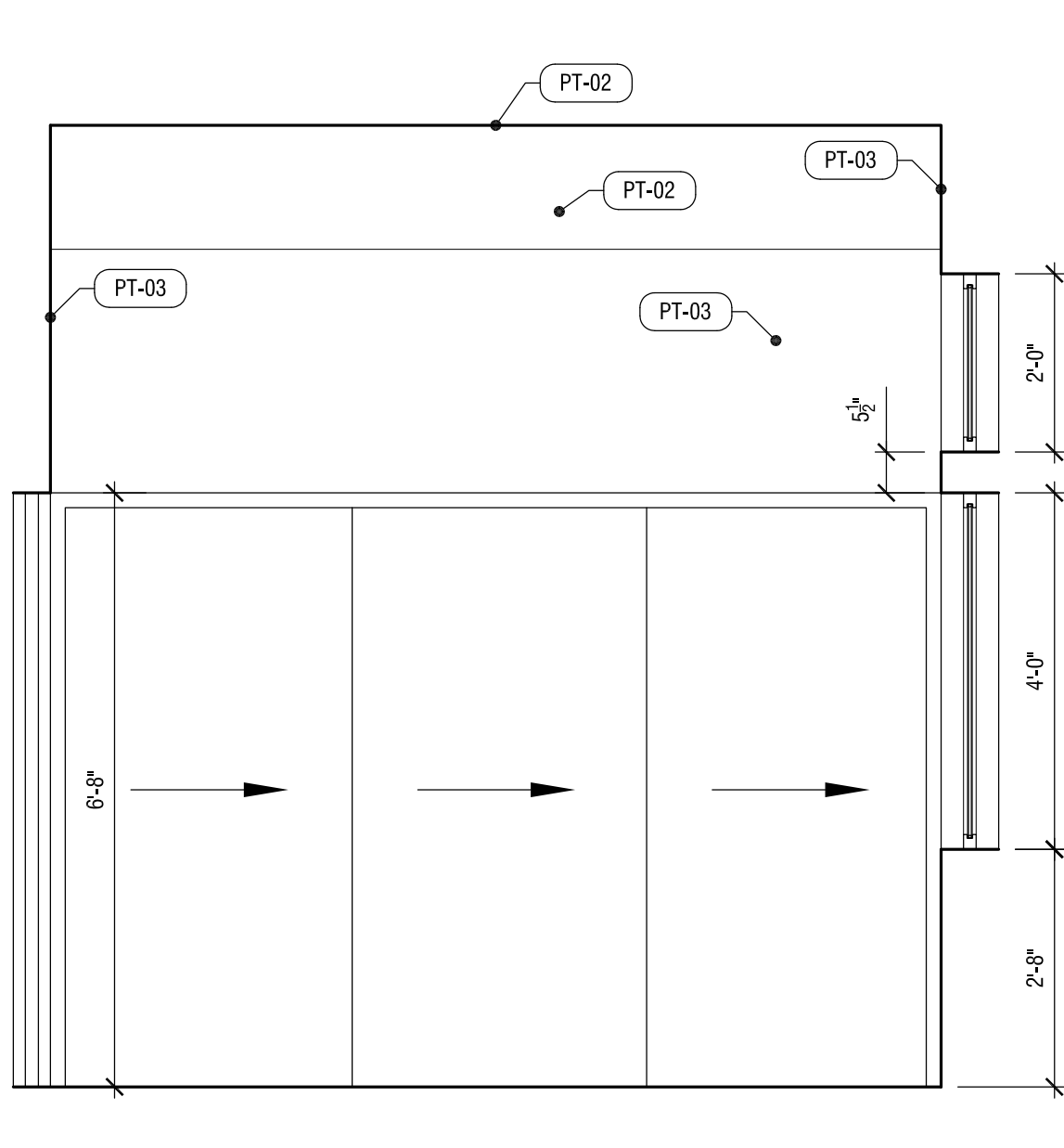
NOUS ENGINEERING, INC.
600 WILSHIRE BOULEVARD, SUITE 700
LOS ANGELES, CALIFORNIA 90017
P. 313.827.6887

MEP ENGINEER:

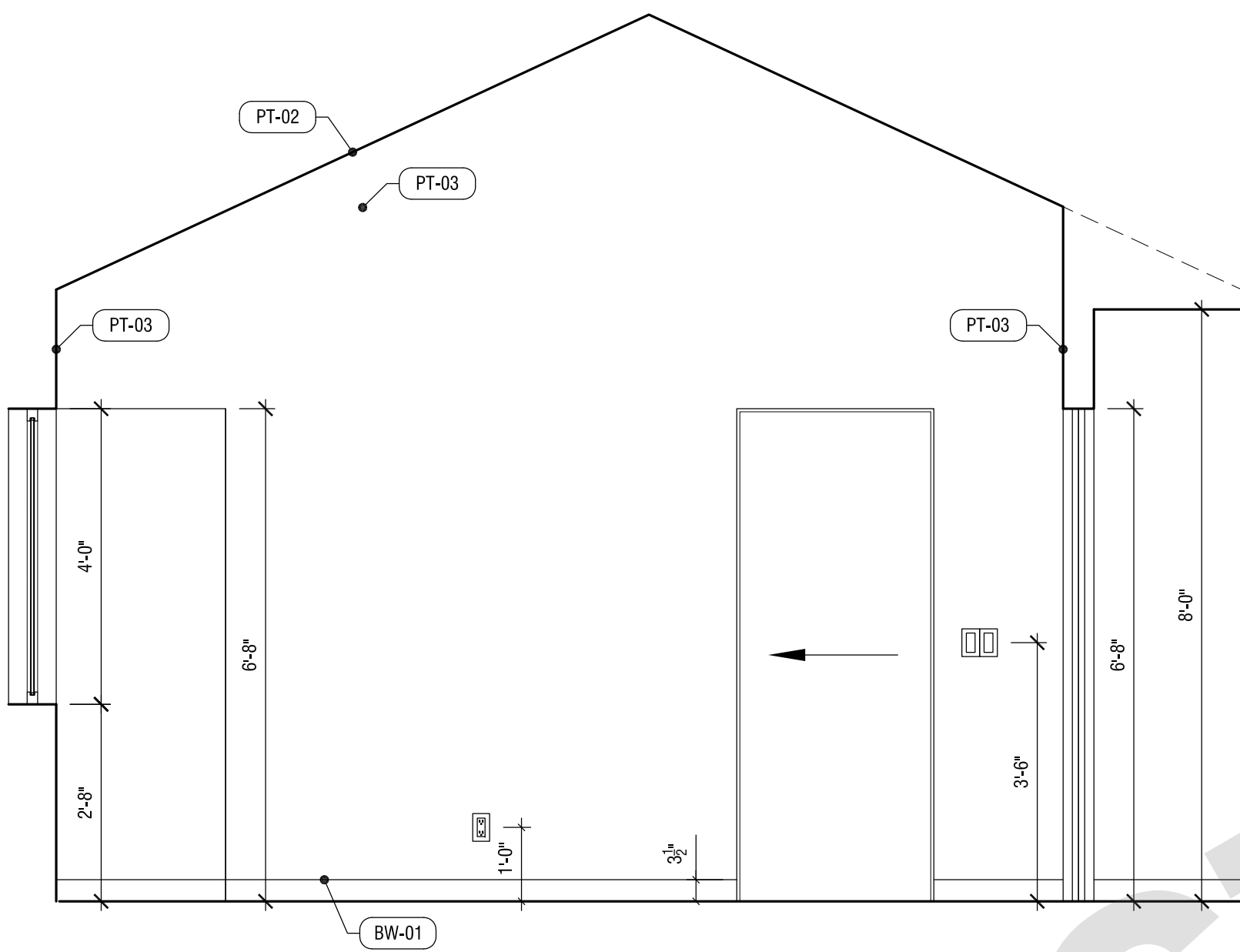
INNODIZ DESIGN AND ENGINEERING
726 FORBROUGH PLACE
PLEASANTON, CALIFORNIA 94566
P. 424.414.0967



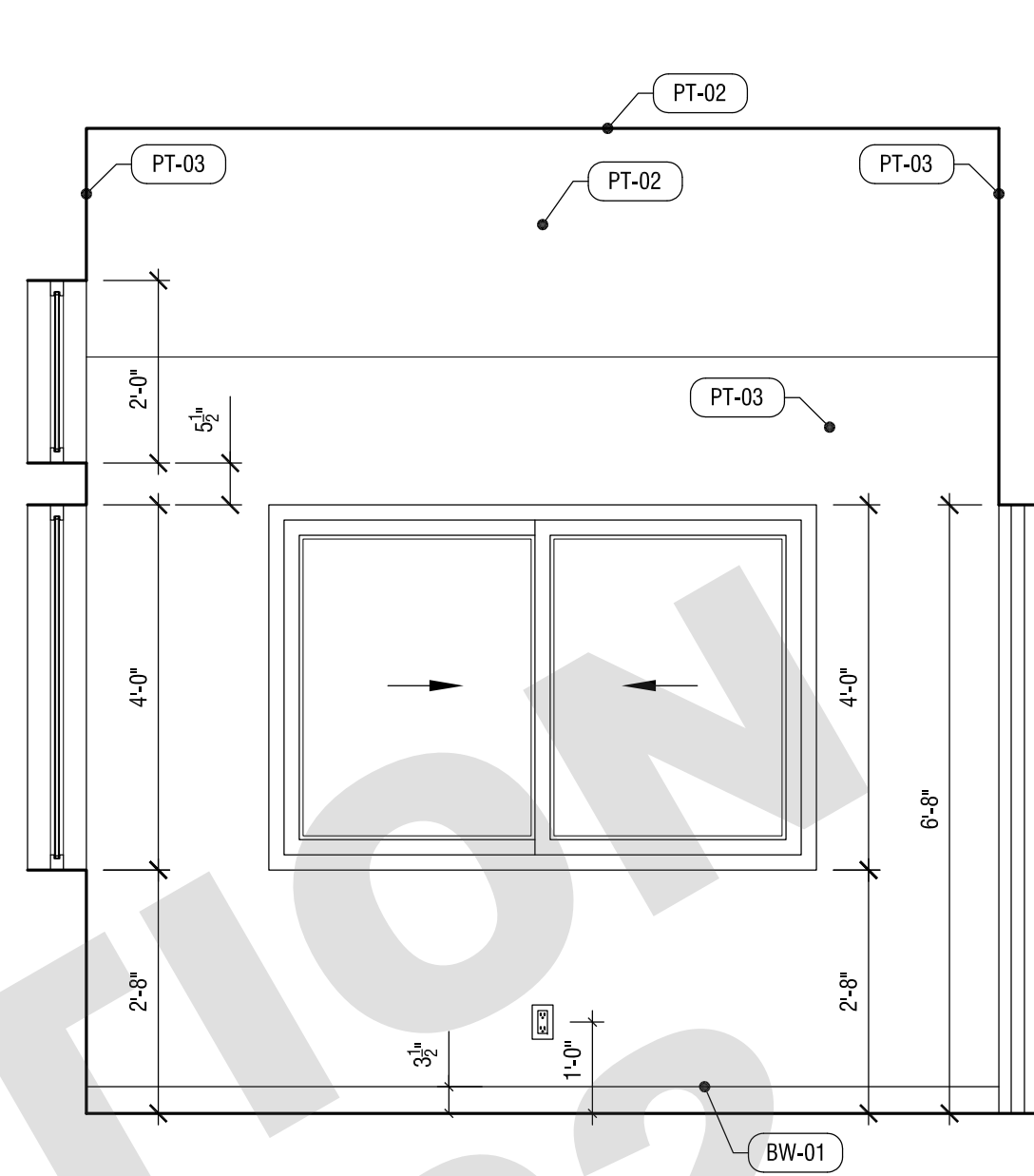
08 LIVING ROOM ELEVATION
SCALE: 1/2"=1'-0"



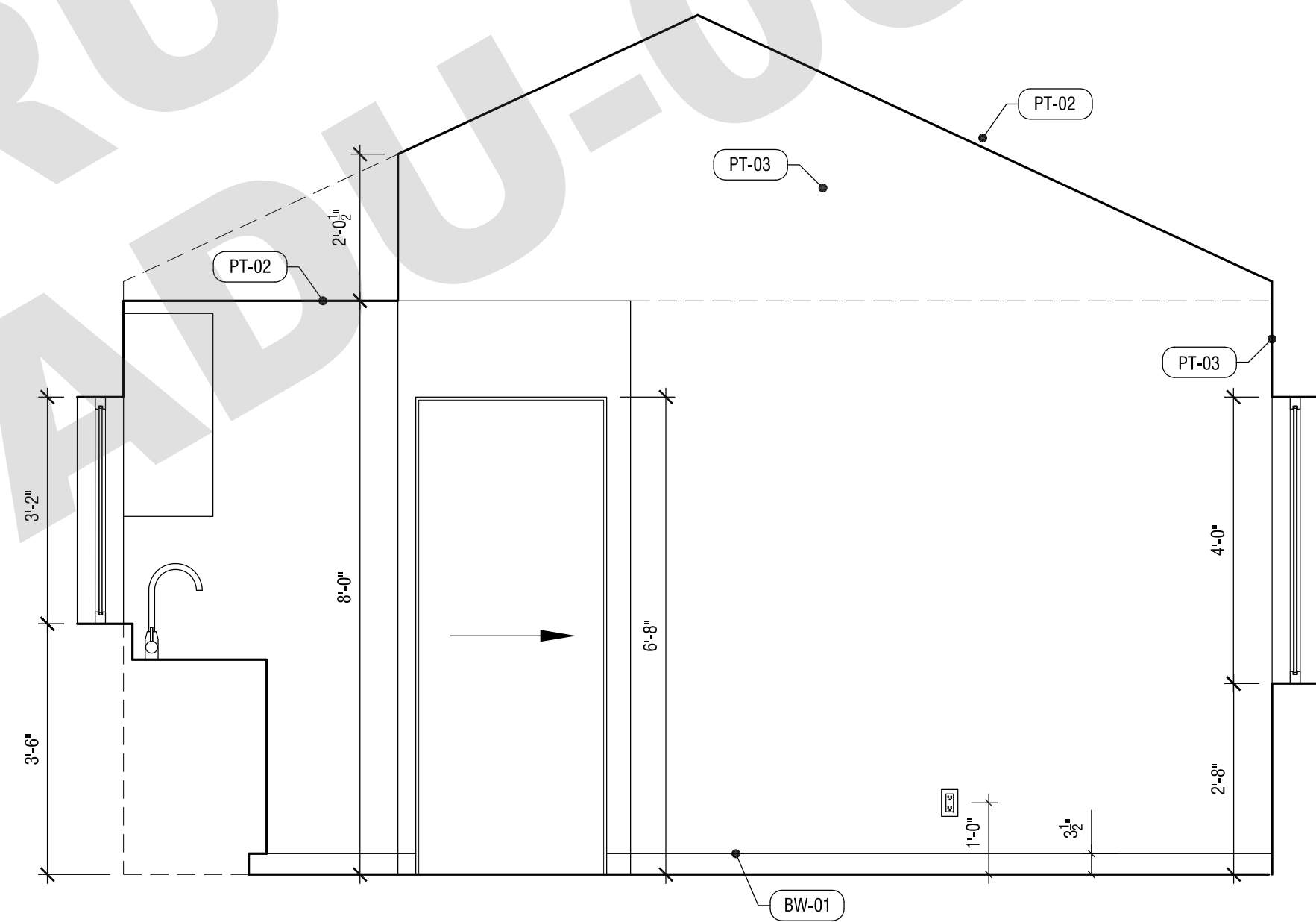
07 LIVING ROOM ELEVATION
SCALE: 1/2"=1'-0"



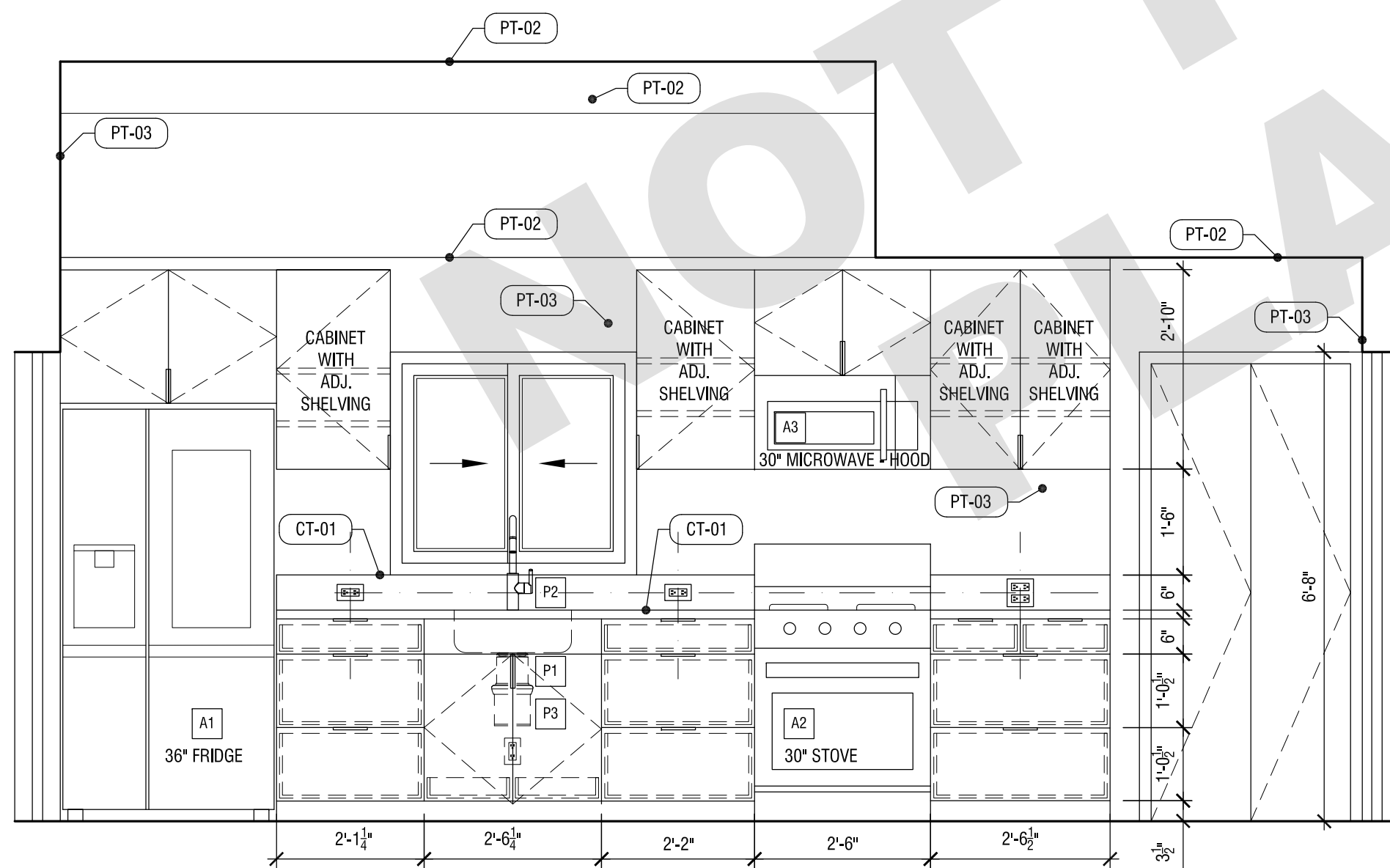
06 LIVING ROOM ELEVATION
SCALE: 1/2"=1'-0"



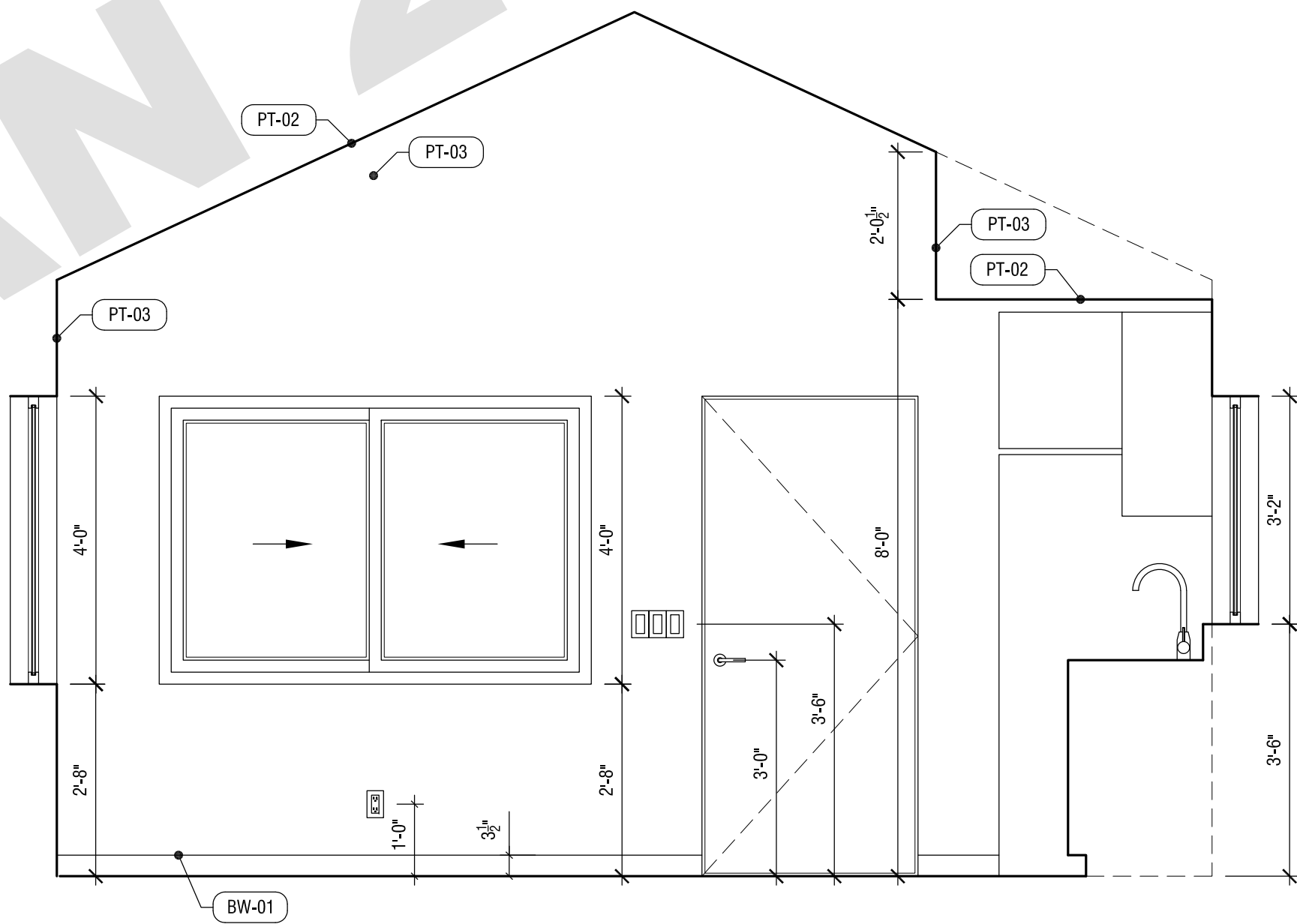
05 LIVING ROOM ELEVATION
SCALE: 1/2"=1'-0"



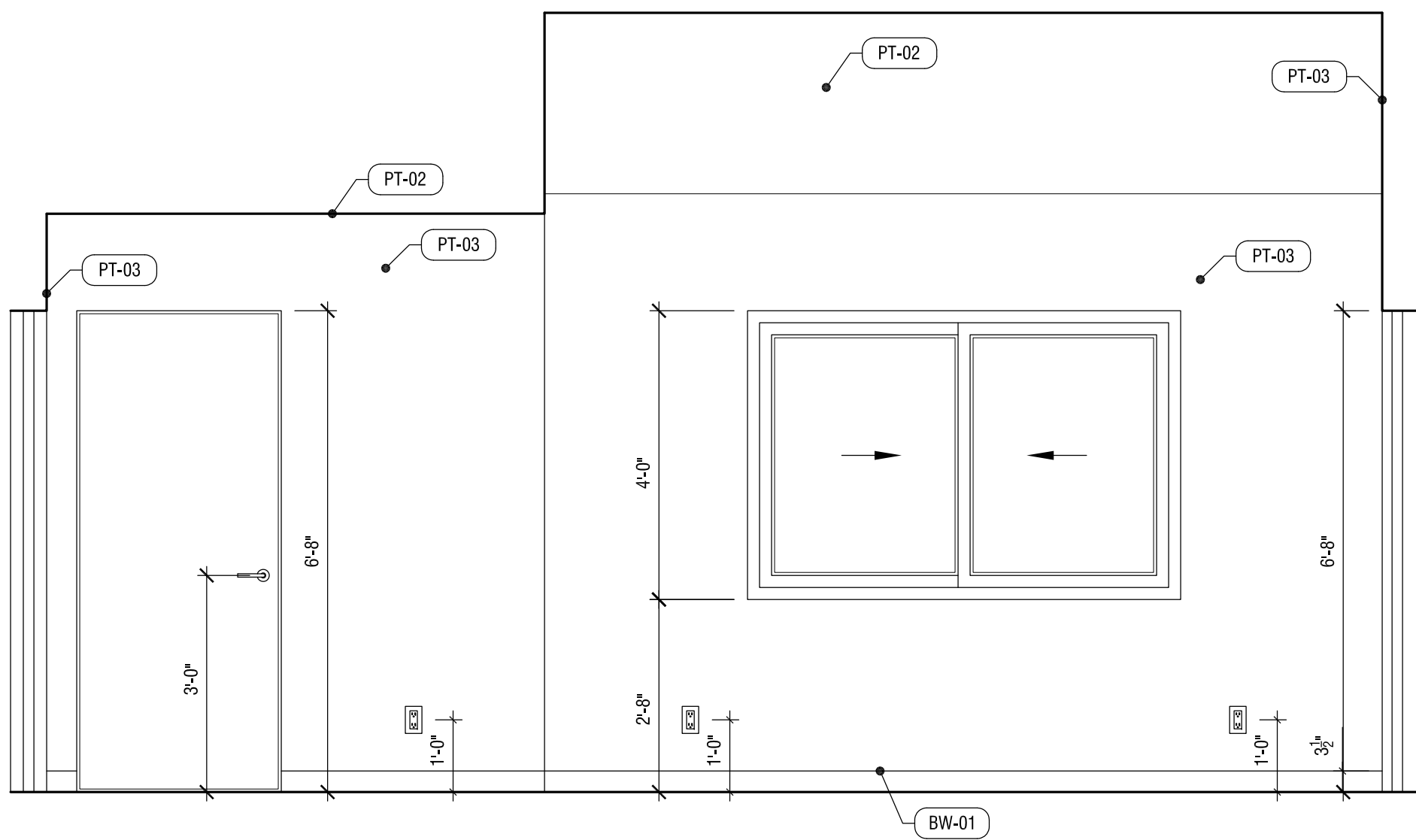
04 LIVING ROOM ELEVATION
SCALE: 1/2"=1'-0"



03 LIVING ROOM ELEVATION
SCALE: 1/2"=1'-0"



02 LIVING ROOM ELEVATION
SCALE: 1/2"=1'-0"



01 LIVING ROOM ELEVATION
SCALE: 1/2"=1'-0"

REVISION: DATE: COMMENT:

ISSUE:

2 REVISION #2 06.03.22 PLAN CHECK CORRECTIONS
1 REVISION #1 04.04.22 PLAN CHECK CORRECTIONS

SEAL:



Project No. 2104
ADU PROGRAM
CITY OF FRESNO
CALIFORNIA

DRAWING TITLE:
ADU 02 - GABLE
INTERIOR ELEVATIONS

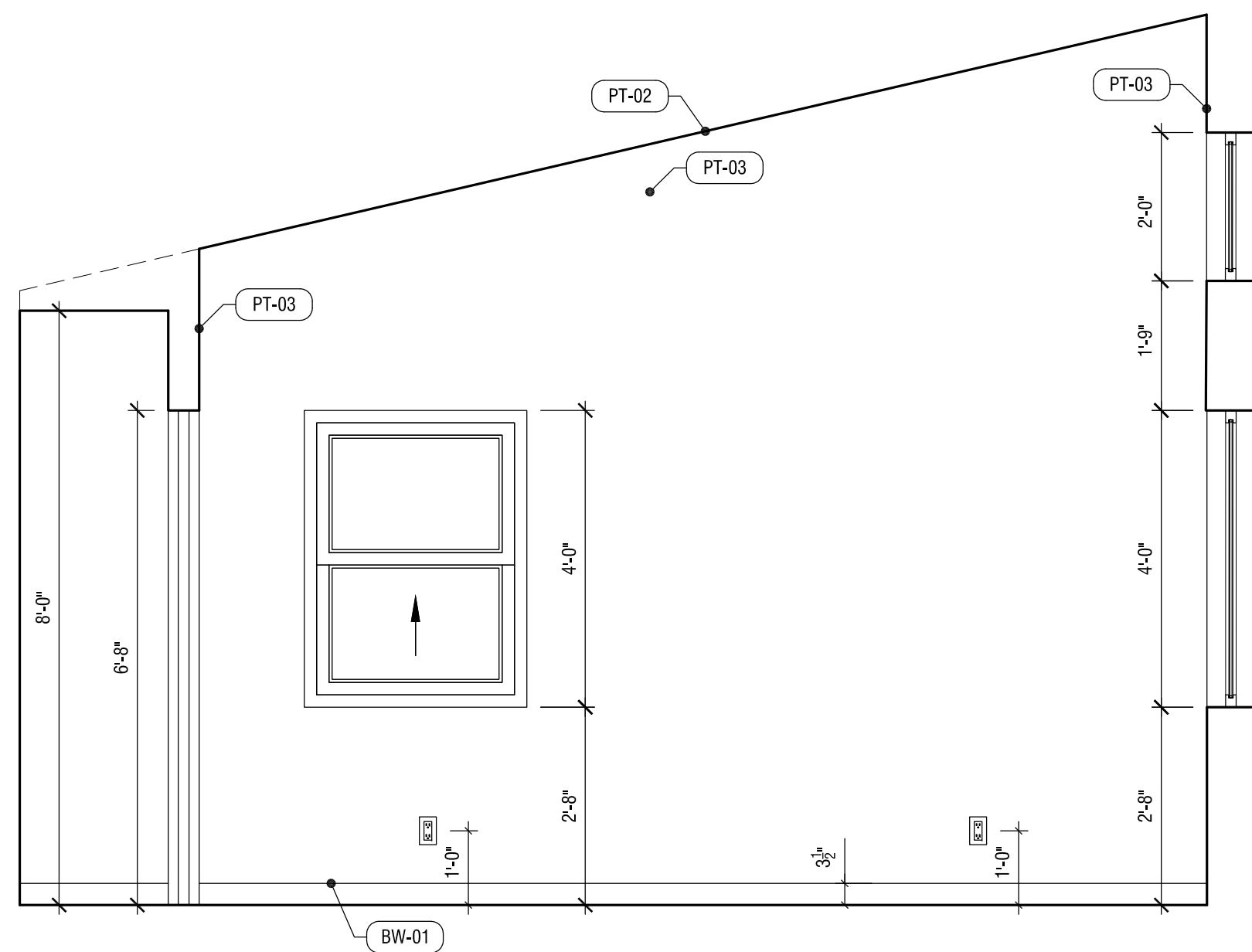
DATE: JUNE 3, 2022

SCALE: 1/2"=1'-0"

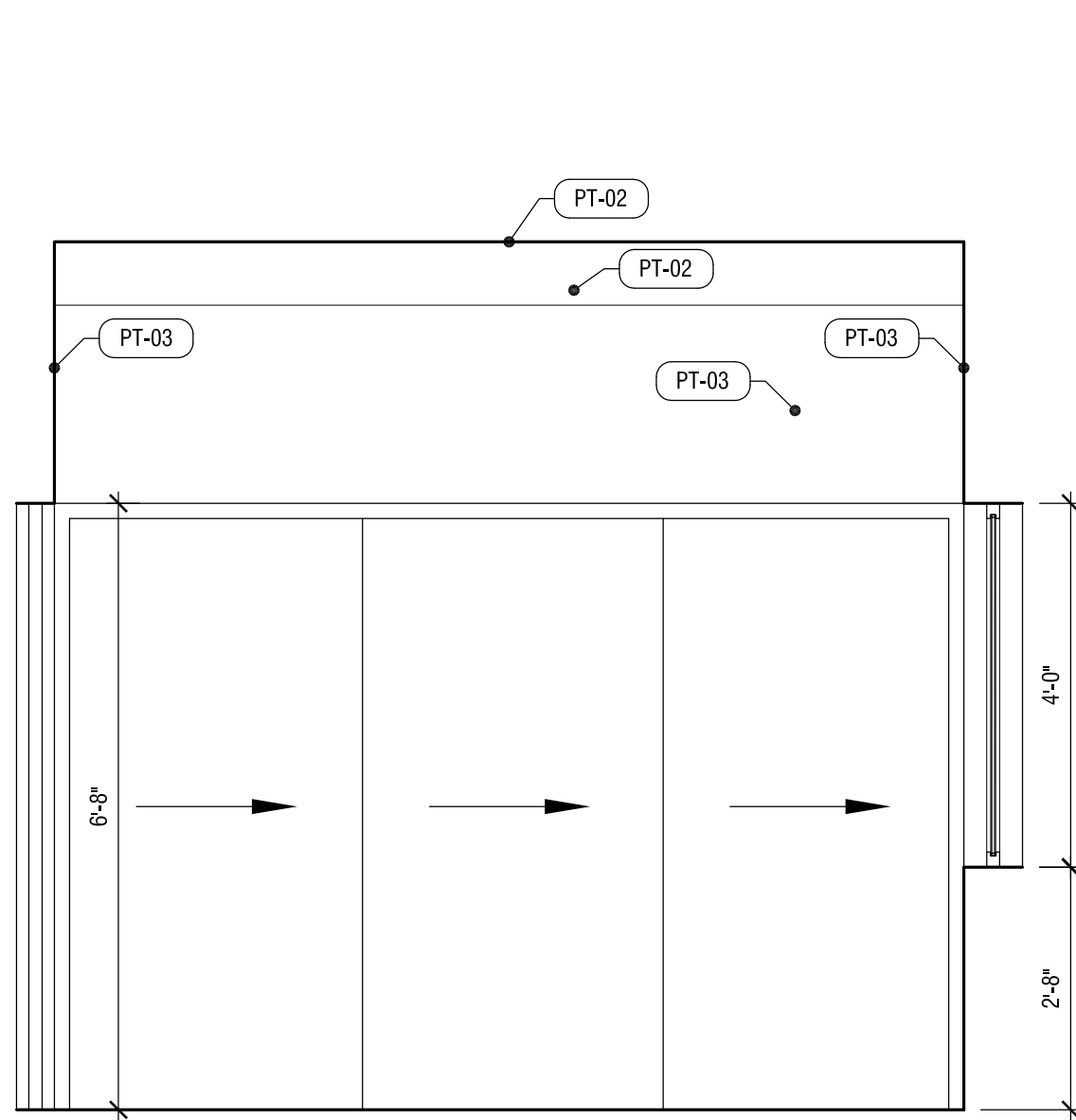
DRAWN BY:

© Aaron Neubert Architects, INC. 2022

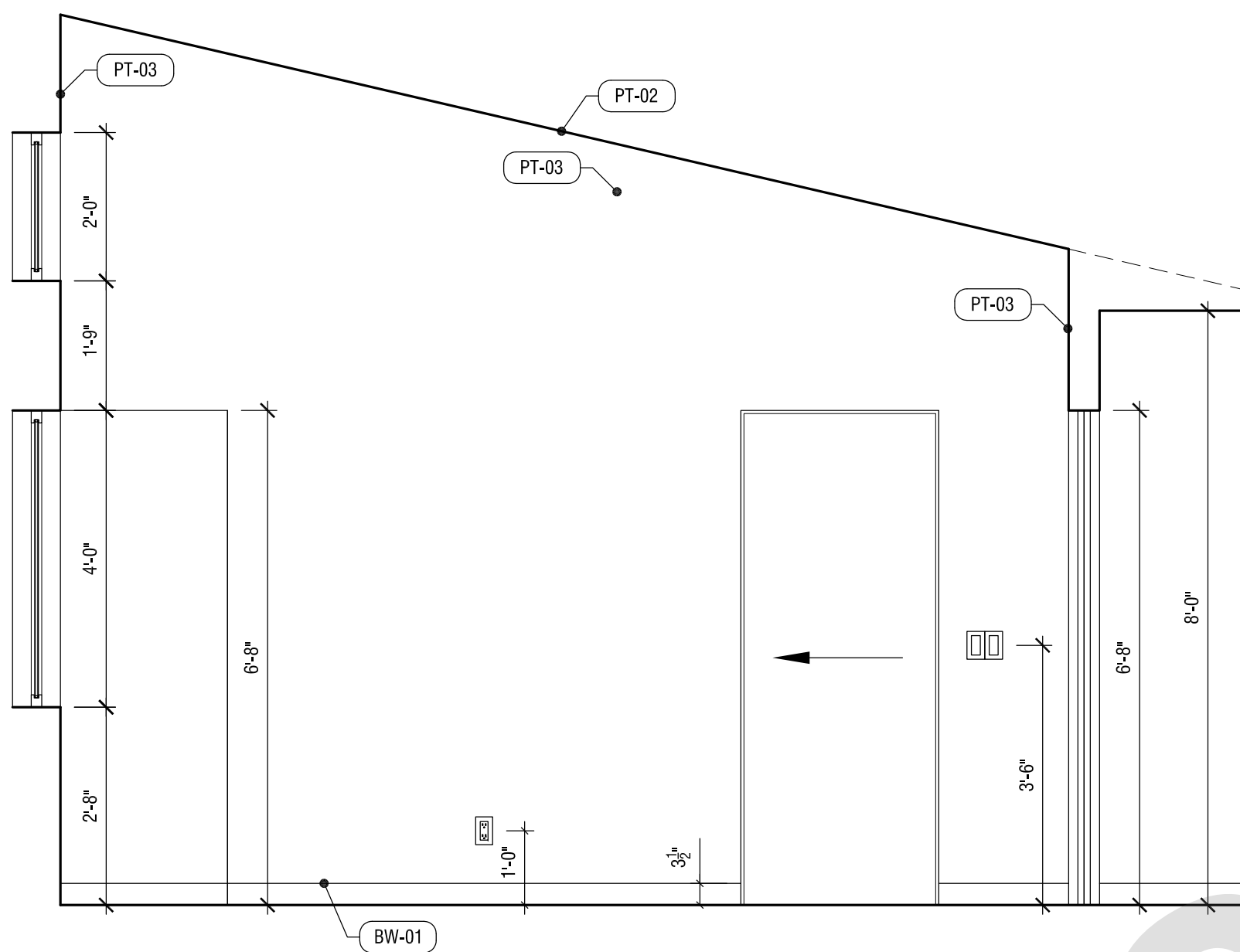
A.401g



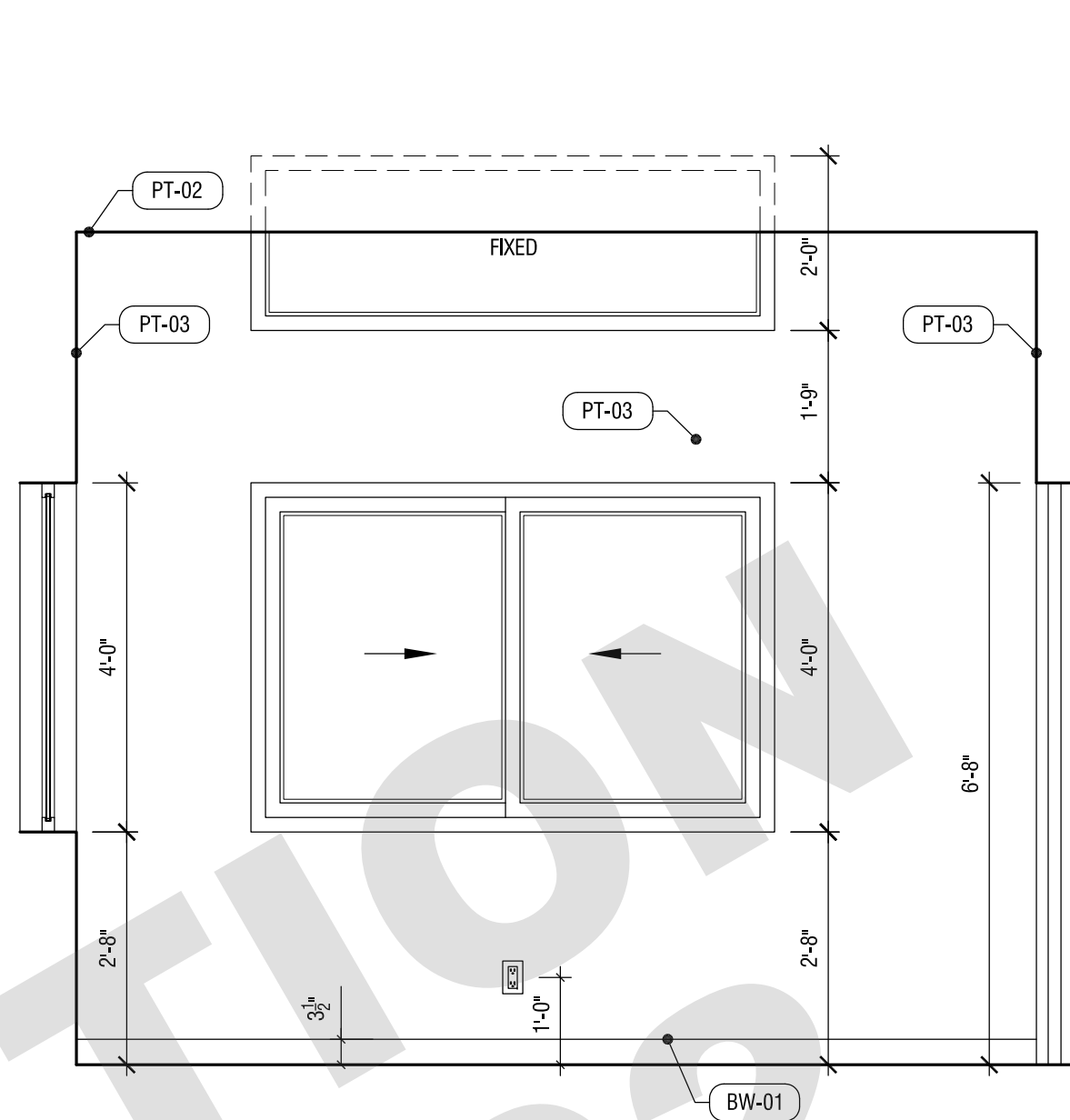
08 LIVING ROOM ELEVATION
SCALE: 1/2"=1'-0"



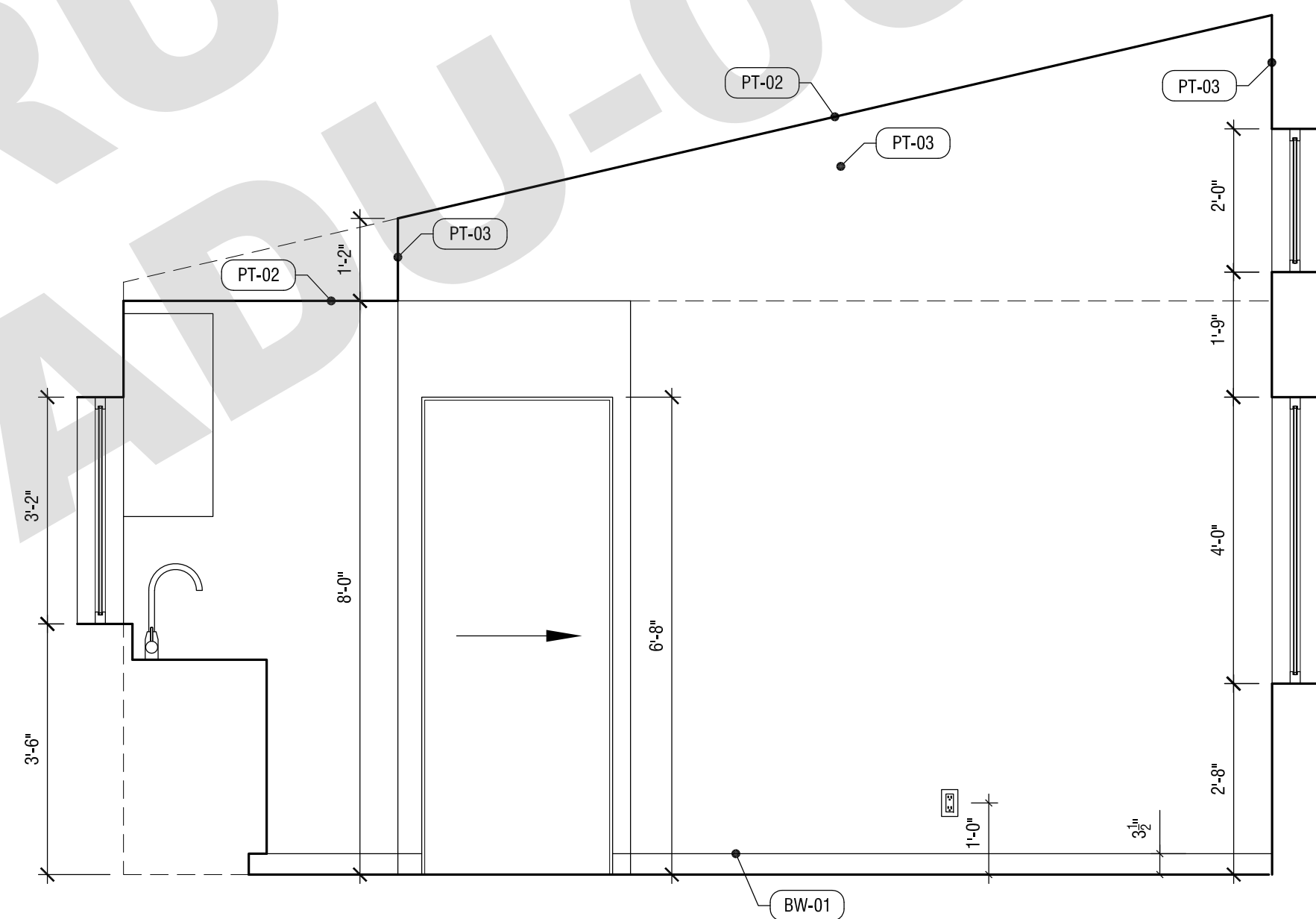
07 LIVING ROOM ELEVATION
SCALE: 1/2"=1'-0"



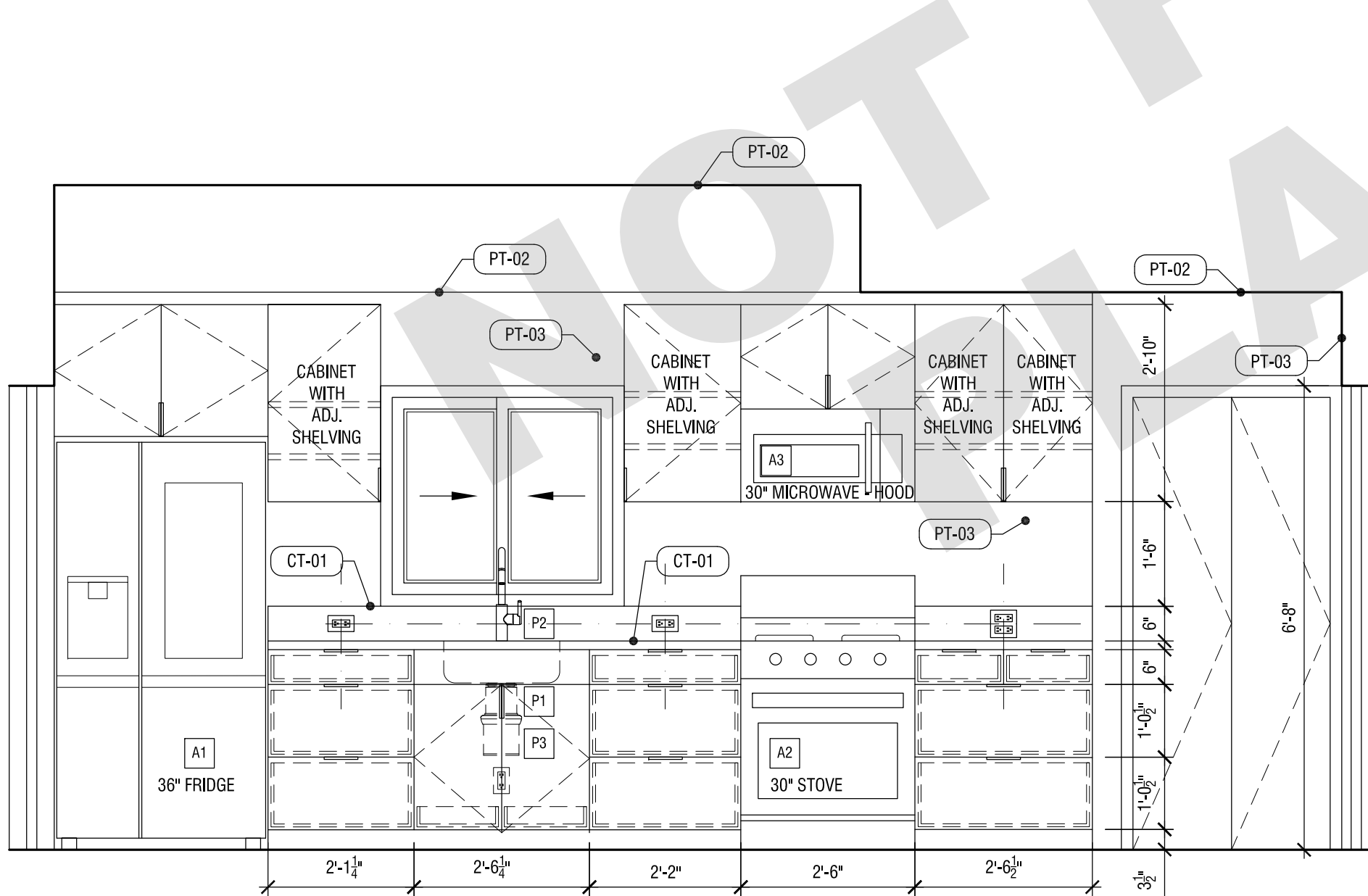
06 LIVING ROOM ELEVATION
SCALE: 1/2"=1'-0"



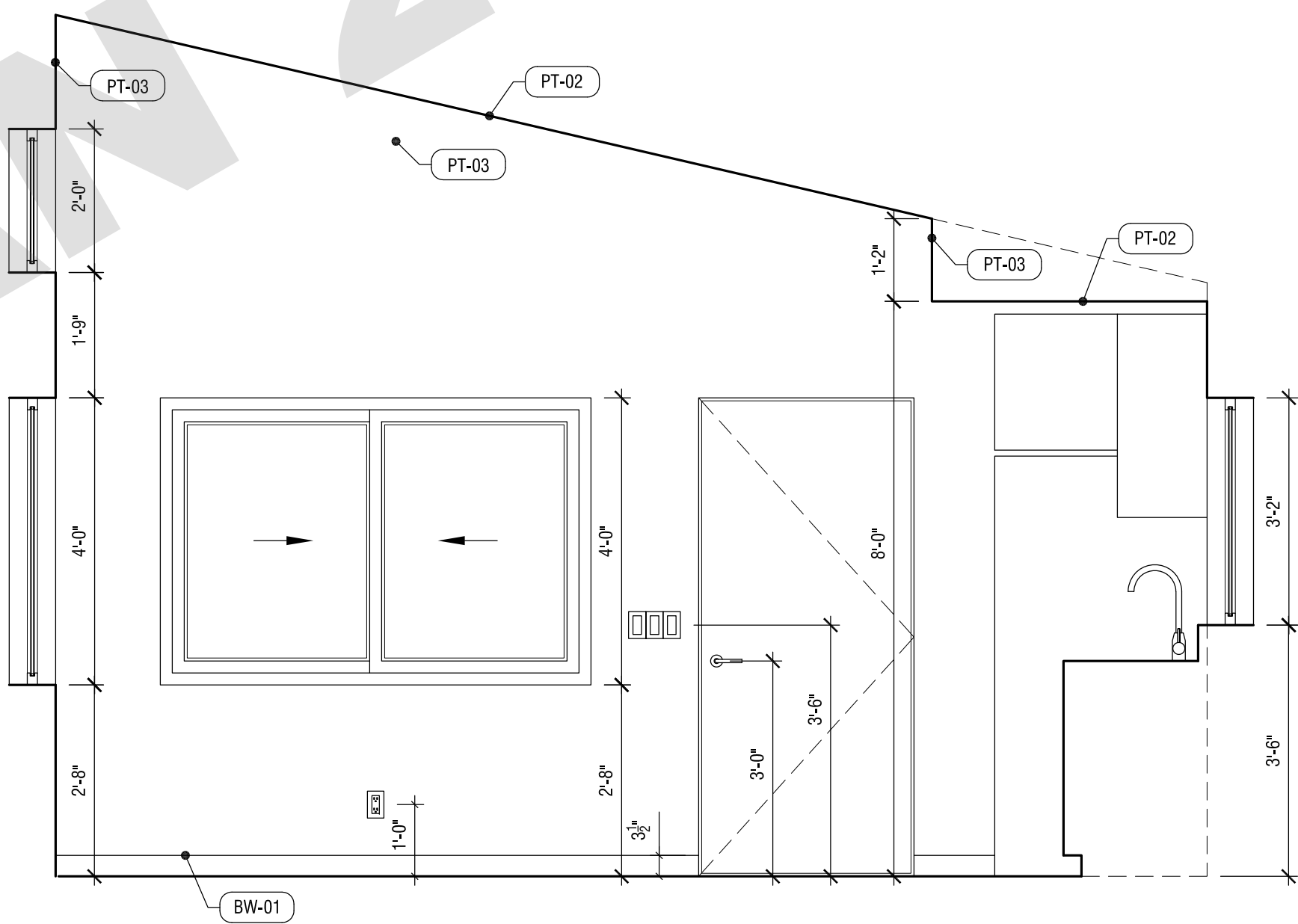
05 LIVING ROOM ELEVATION
SCALE: 1/2"=1'-0"



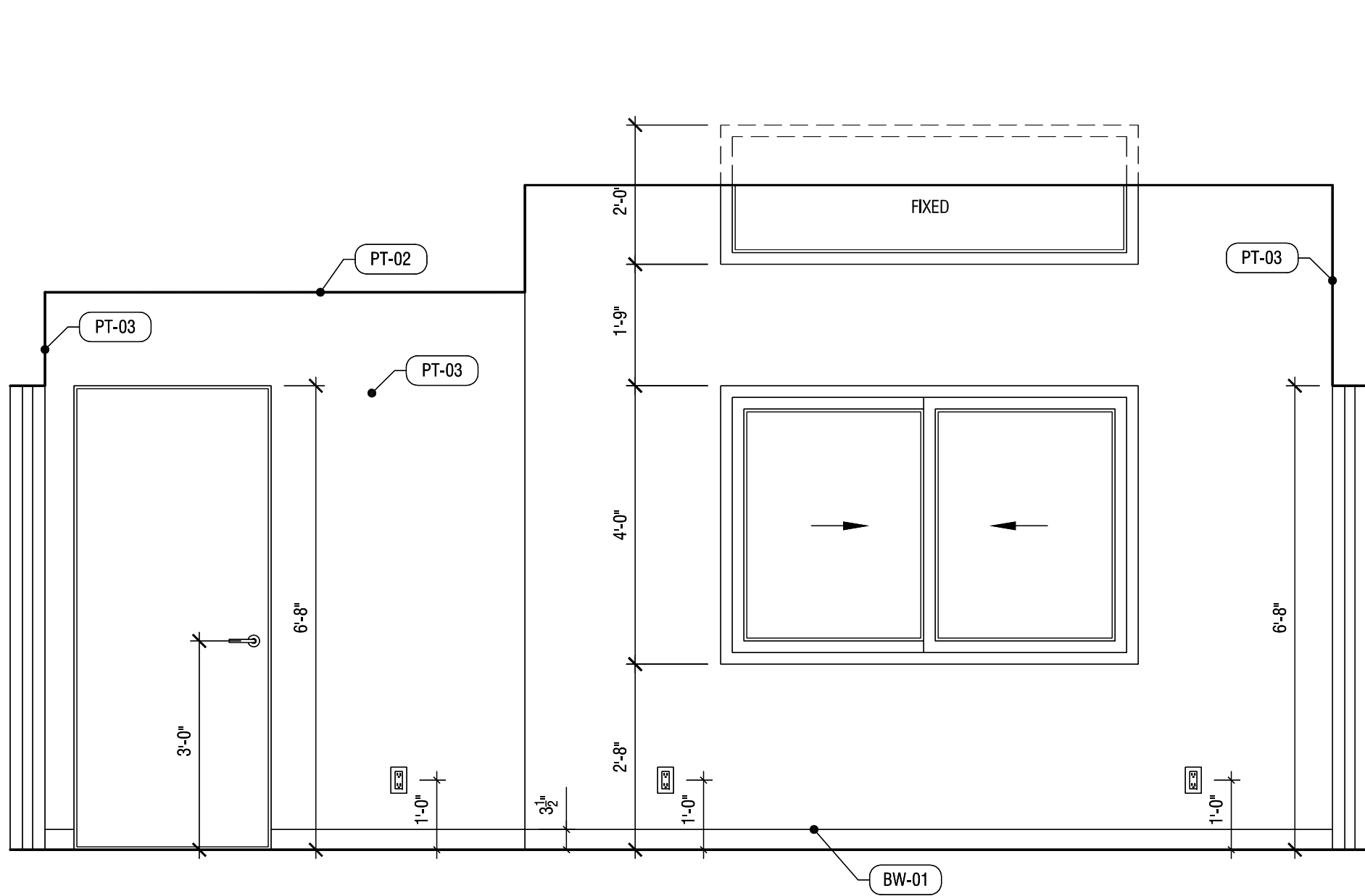
04 LIVING ROOM ELEVATION
SCALE: 1/2"=1'-0"



03 LIVING ROOM ELEVATION
SCALE: 1/2"=1'-0"



02 LIVING ROOM ELEVATION
SCALE: 1/2"=1'-0"



01 LIVING ROOM ELEVATION
SCALE: 1/2"=1'-0"

ADU PROGRAM

OWNER:

CITY OF FRESNO
PLANNING AND DEVELOPMENT DEPARTMENT
2000 FRESNO STREET, 3RD FLOOR
FRESNO, CA 93721

ARCHITECT:

AARON NEUBERT ARCHITECTS, INC.
2814 ROWENA AVENUE, SUITE ONE
LOS ANGELES, CALIFORNIA 90039
P. 323.953.4700 F. 323.953.4900
AARON NEUBERT CA# C-29005

STRUCTURAL ENGINEER:

NOUS ENGINEERING, INC.
600 WILSHIRE BOULEVARD, SUITE 700
LOS ANGELES, CALIFORNIA 90017
P. 313.827.6867

MEP ENGINEER:

INNODEZ DESIGN AND ENGINEERING
726 FORBROUGH PLACE
PLEASANTON, CALIFORNIA 94566
P. 925.414.0967

REVISION: DATE: COMMENT:

ISSUE:

2 REVISION #2 06.03.22 PLAN CHECK CORRECTIONS
1 REVISION #1 04.04.22 PLAN CHECK CORRECTIONS

SEAL:



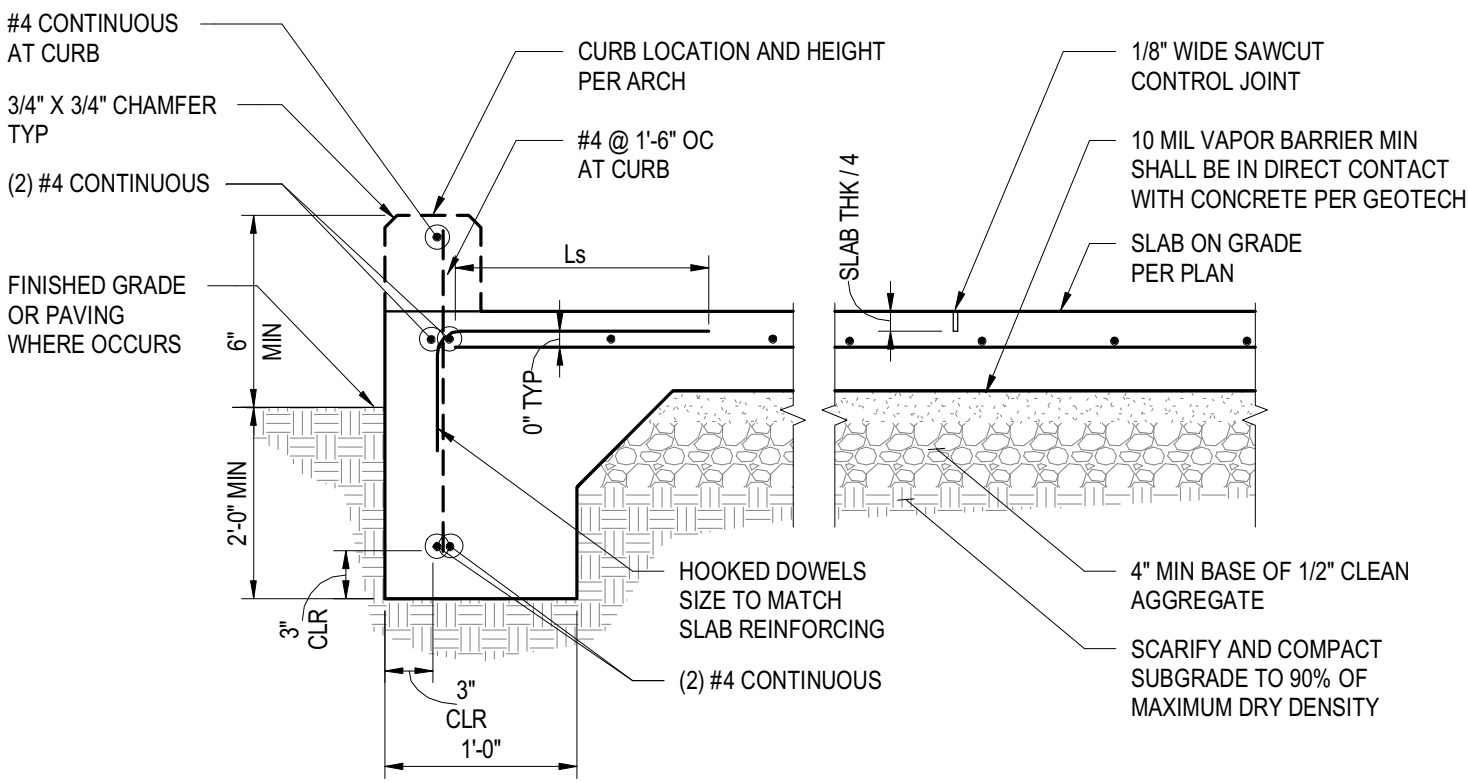
Project No. 2104
ADU PROGRAM
CITY OF FRESNO
CALIFORNIA

DRAWING TITLE:
ADU 02 - CONTEMPORARY
INTERIOR ELEVATIONS

DATE: JUNE 3, 2022

SCALE: 1/2"=1'-0"

DRAWN BY:

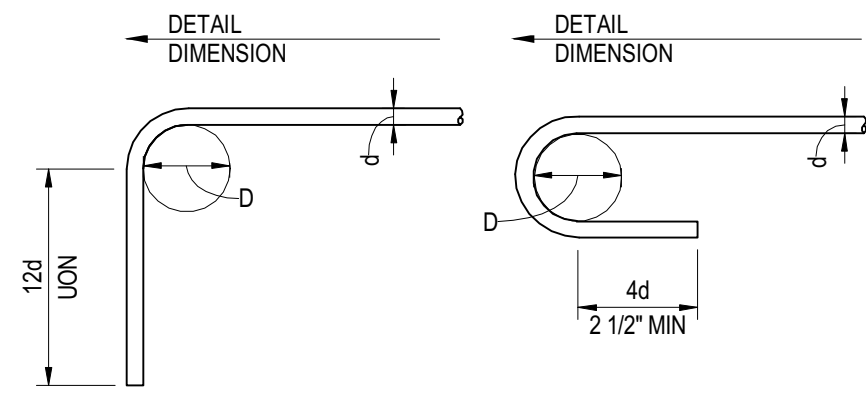


A EDGE OF SLAB ON GRADE

B SLAB-ON-GRADE

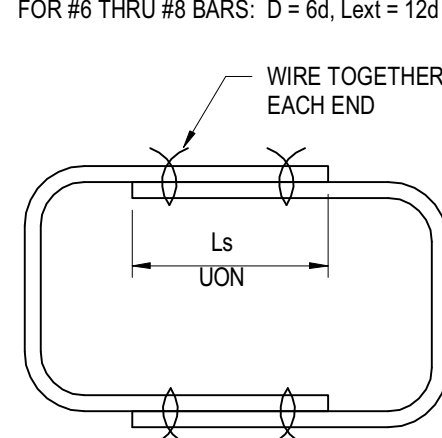
13 SLAB ON GRADE

NOT TO SCALE

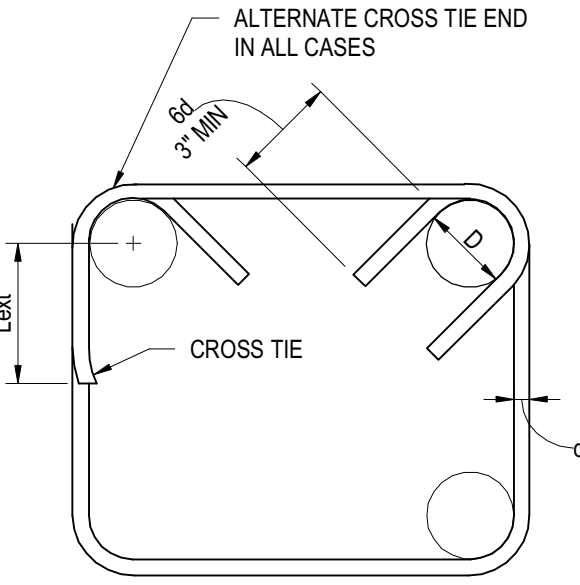


A STANDARD HOOK DETAILS

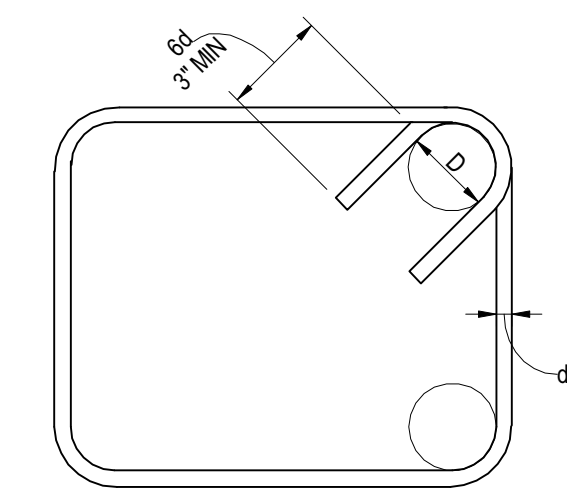
FOR STIRRUPS, TIES, AND HOOPS:
FOR #3 THRU #5 BARS: $D = 4d$, $L_{ext} = 6d$, $3"$ MIN
FOR #6 THRU #8 BARS: $D = 6d$, $L_{ext} = 12d$



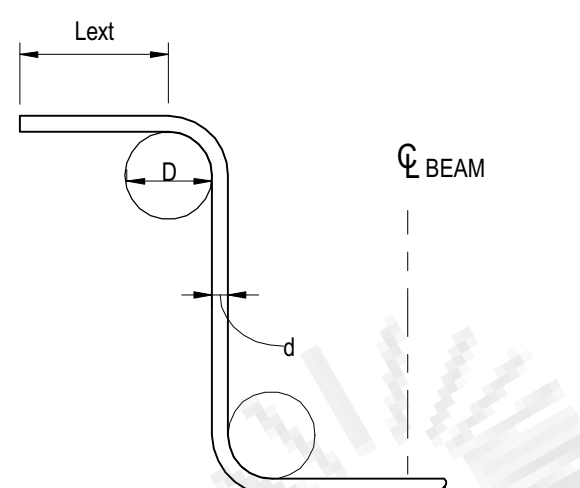
B TWO PIECE STRAIGHT BAR CLOSED STIRRUPS



C TWO-PIECE BEAM TIE



D BEAM AND COLUMN CLOSED TIE

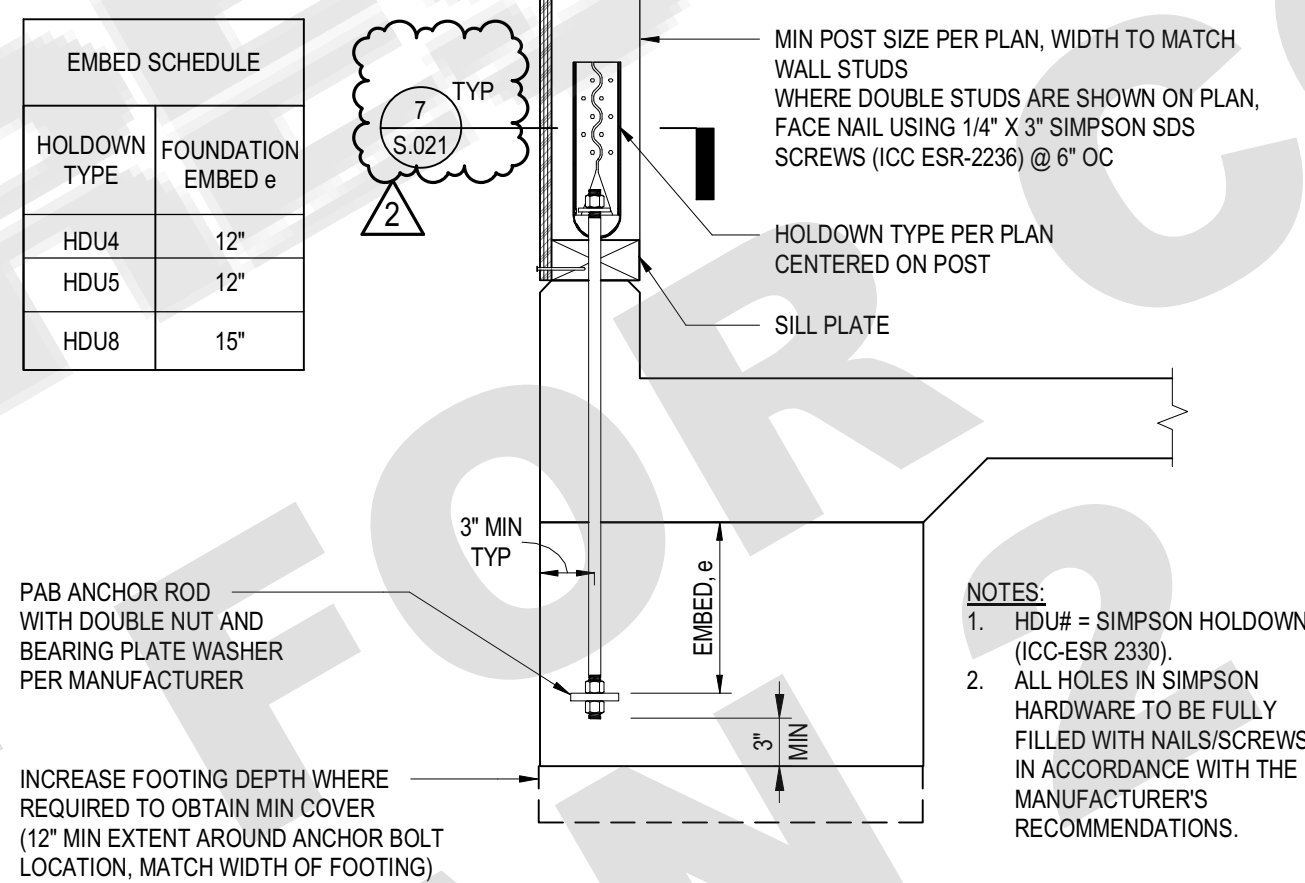


E BEAM & JOIST STIRRUP

10 BAR BENDING DETAIL

NOT TO SCALE

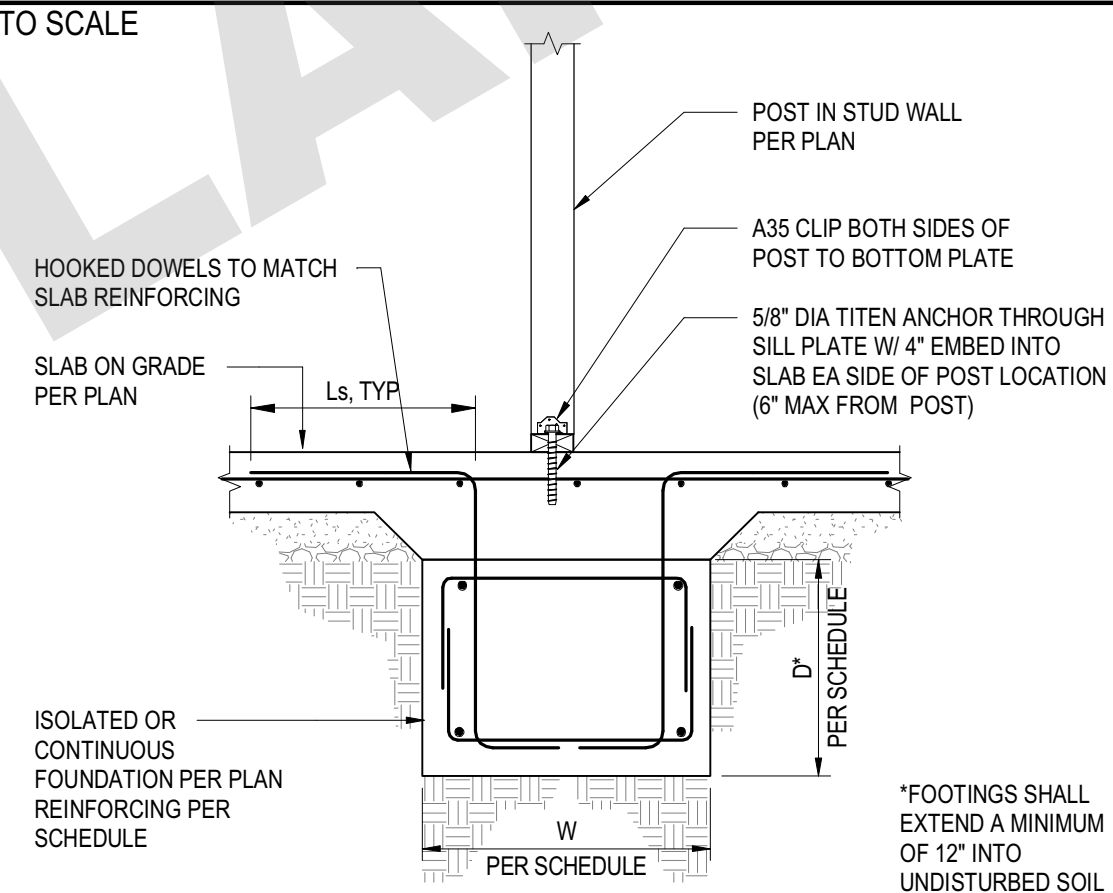
EMBED SCHEDULE	
HOLDOWN TYPE	FOUNDATION EMBED e
HDU4	12"
HDU5	12"
HDU8	15"



NOTES:
1. HDU# = SIMPSON HOLDOWN (ICC-ESR 2330).
2. ALL HOLES IN SIMPSON HARDWARE TO BE FULLY FILLED WITH NAILS/SCREWS IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

11 SHEAR WALL HOLDOWN DETAIL

NOT TO SCALE

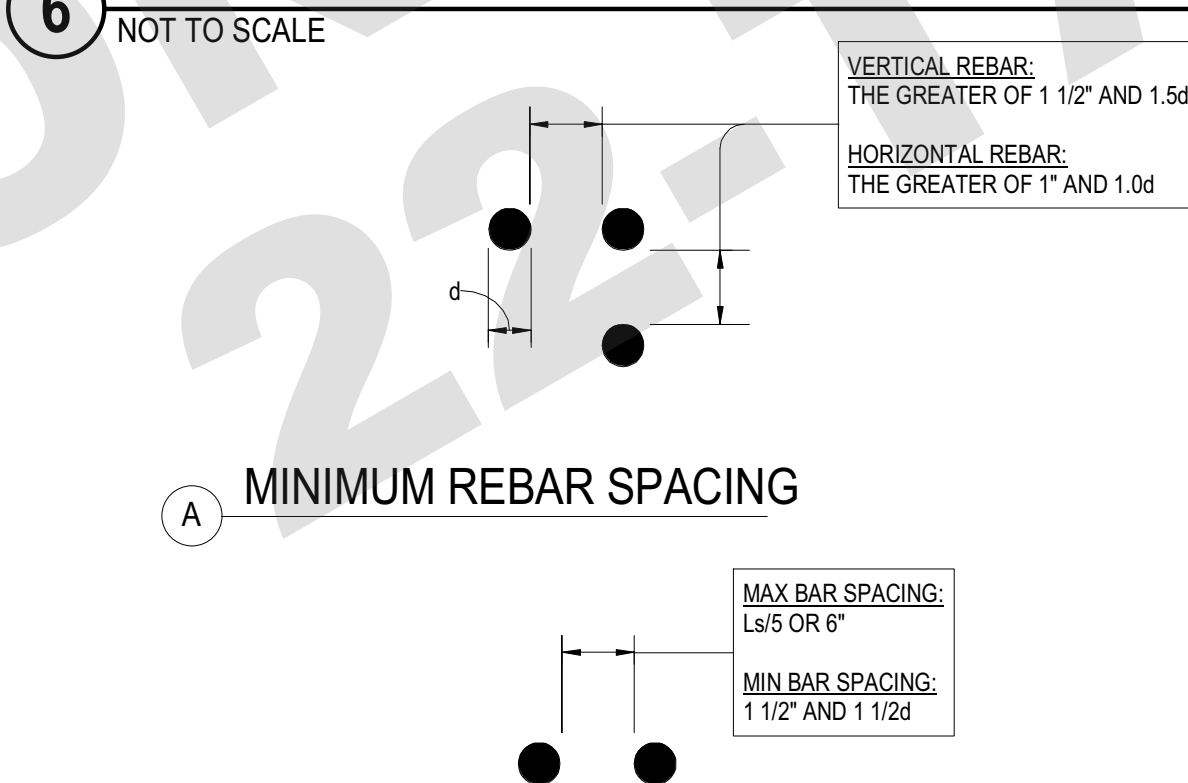


12 INTERIOR POST FOUNDATION

NOT TO SCALE

6 REINFORCING DEVELOPMENT & SPLICE LENGTHS

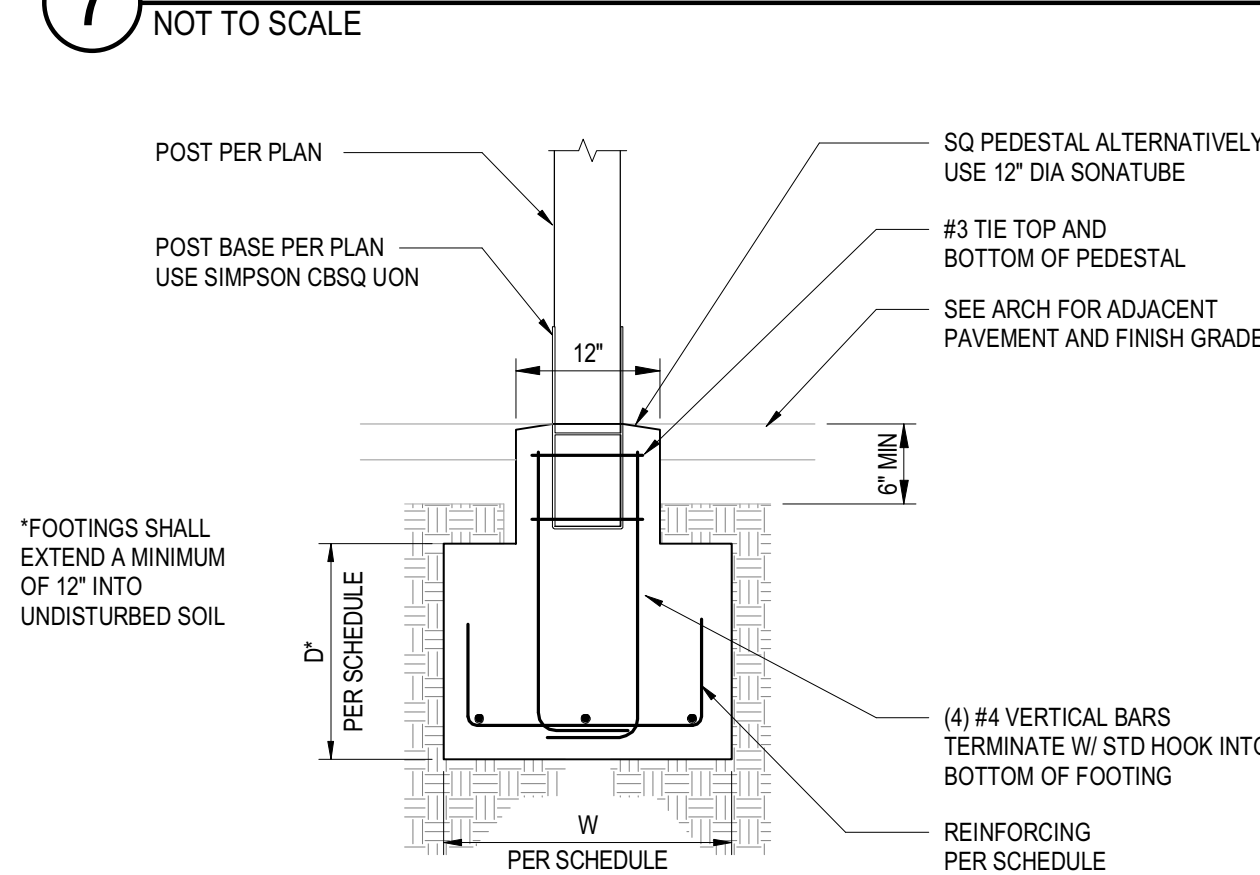
NOT TO SCALE



B BAR SPACING FOR BARS SPLICED WITH A NON-CONTACT LAP

7 BAR SPACING IN CONCRETE

NOT TO SCALE



8 ISOLATED POST FOOTING

NOT TO SCALE

4 CONTINUOUS FOOTING

NOT TO SCALE

- NOTES:
1. YIELD STRENGTH OF REINFORCEMENT = 60 KSI (TYPICAL)
 2. UNCOATED OR ZINC-COATED (GALVANIZED) REINFORCEMENT
 3. VALUES SHOWN FOR NORMAL WEIGHT CONCRETE ONLY. MULTIPLY BY 1.3 FOR LIGHTWEIGHT.
 4. FOR GRADE 75 REINFORCEMENT MULTIPLY BY 1.25; FOR GRADE 80 REINFORCEMENT MULTIPLY BY 1.33.
 5. MORE THAN 12" OF CONCRETE CAST BELOW THE BARS ARE MOST TOP BARS. LESS THAN 12" OF CONCRETE CAST BELOW HORIZONTAL BARS ARE ALL VERTICAL BARS AND MOST BOTTOM BARS.

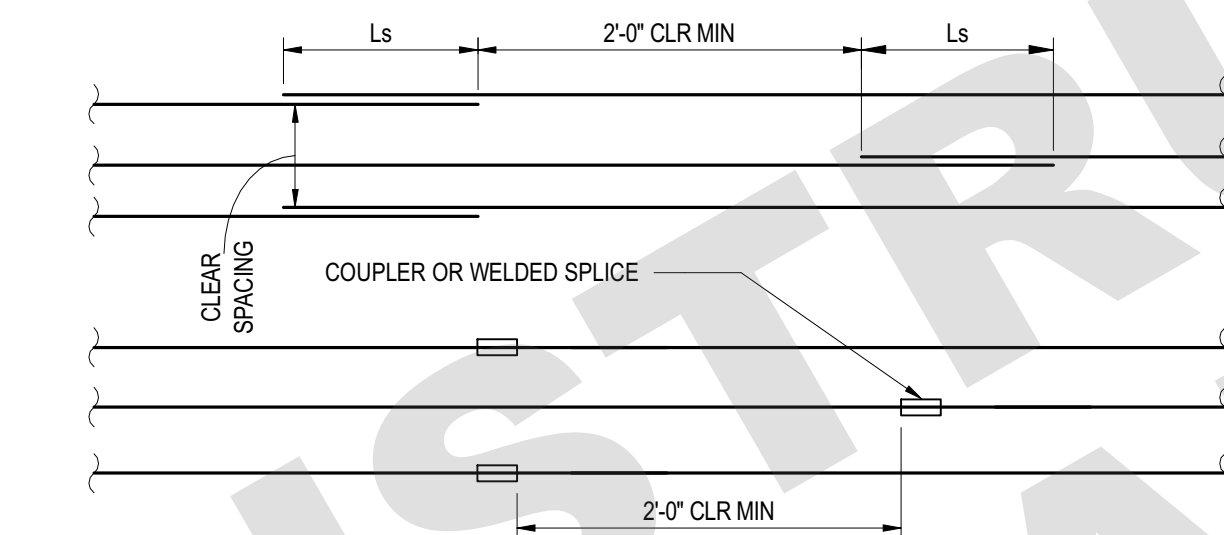
6. L_d = DEVELOPMENT LENGTH (ACI 318-14 TABLE 25.4.2.2)

7. L_s = LAP SPLICE LENGTH (ACI 318-14 TABLE 25.5.2.1)

8. L_{dh} = HOOK DEVELOPMENT LENGTH (ACI 318-14 25.4.3)

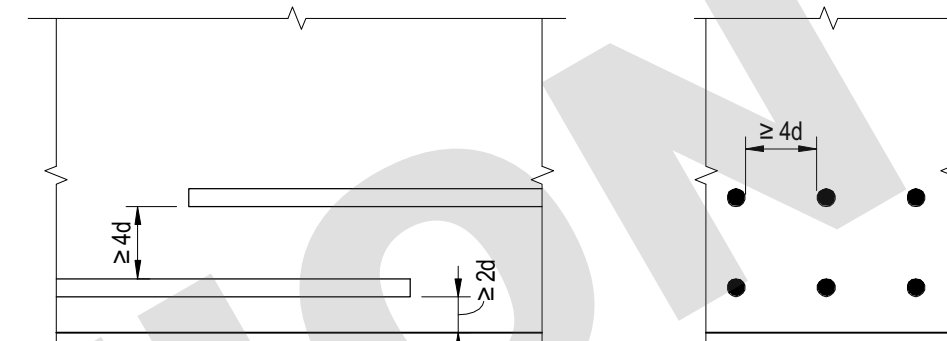
9. WHEN SPLICING BARS OF DIFFERENT SIZE, USE THE GREATER OF L_d OF THE LARGER BAR AND L_s OF THE SMALLER BAR.

10. STAGGER SPLICES AS INDICATED ON DRAWINGS.



CONDITION A

CLEAR SPACING OF BARS OR WIRES BEING DEVELOPED OR LAP SPLICED $\geq 4d$.
CLEAR COVER $\geq 2d$

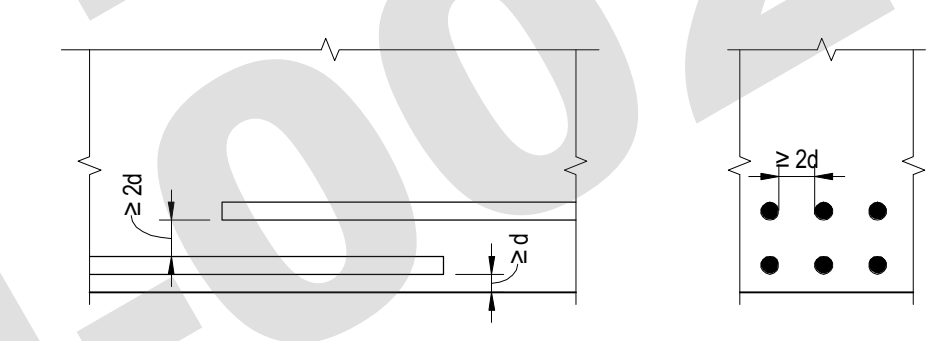


ELEVATION

SECTION

CONDITION B

CLEAR SPACING OF BARS OR WIRES BEING DEVELOPED OR LAP SPLICED $\geq 2d$. CLEAR COVER $\geq d$

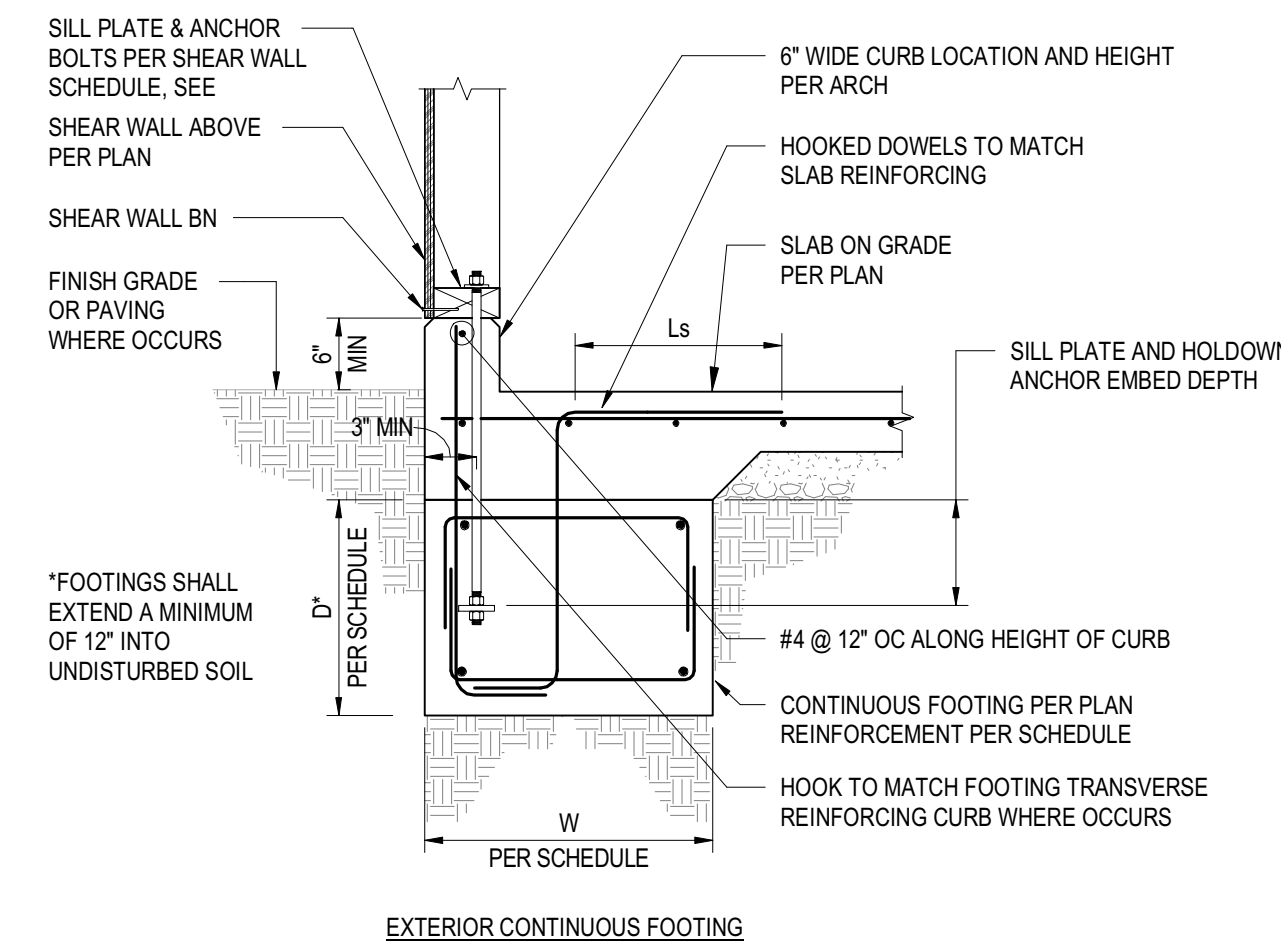
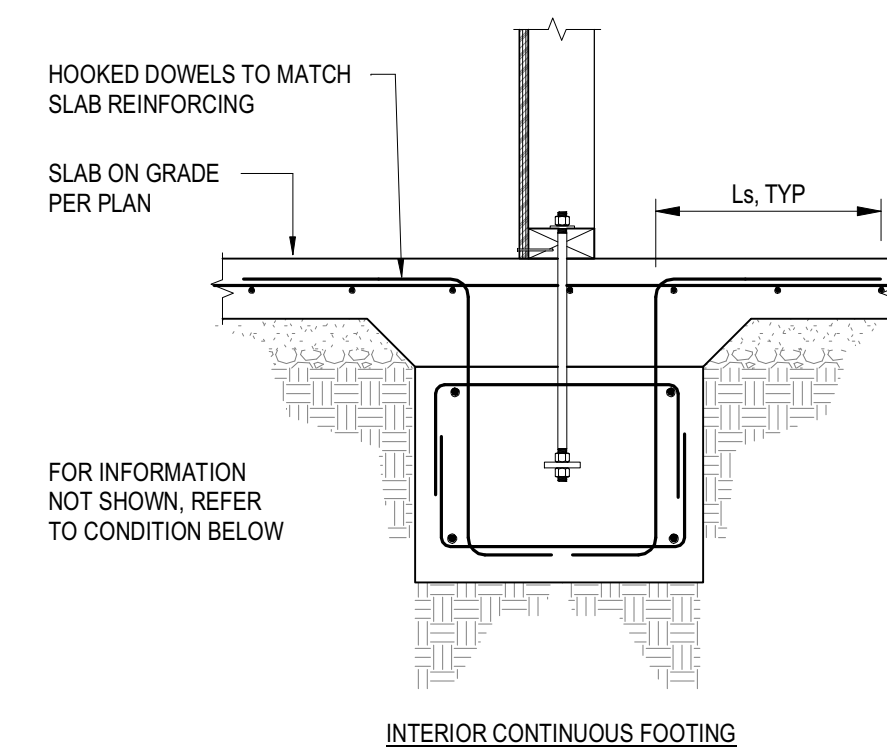


ELEVATION

SECTION

CONDITION C

OTHER CASES - WHERE CLEAR SPACING OF BARS OR WIRES $< 2d$ OR CLEAR COVER $< d$.



AARON NEUBERT ARCHITECTS

ADU PROGRAM

OWNER:

CITY OF FRESNO
PLANNING AND DEVELOPMENT DEPARTMENT
2000 FRESNO STREET, 3RD FLOOR
FRESNO, CA 93721

ARCHITECT:

AARON NEUBERT ARCHITECTS, INC.
2814 BROWNE AVENUE, SUITE ONE
LOS ANGELES, CALIFORNIA 90009
P. 323.953.4700 F. 323.953.4900
AARON NEUBERT CAP C-29005

STRUCTURAL ENGINEER:

NOUS ENGINEERING, INC.
600 WALSHRE BOULEVARD, SUITE 700
LOS ANGELES, CALIFORNIA 90017
P. 213.827.6607

MEP ENGINEER:

INNODEZ DESIGN AND ENGINEERING
726 FORBROUGH PLACE
PLEASANTON, CALIFORNIA 94566
P. 424.414.0907

REVISION:

DATE:

COMMENT:

2 REVISION #2 06.03.22 PLAN CHECK CORRECTIONS

1 REVISION #1 04.01.22 PLAN CHECK CORRECTIONS

SEAL:



Project No. 2104

ADU PROGRAM

CITY OF FRESNO
CALIFORNIA

DRAWING TITLE:

ADU 02 TYPICAL CONCRETE DETAILS

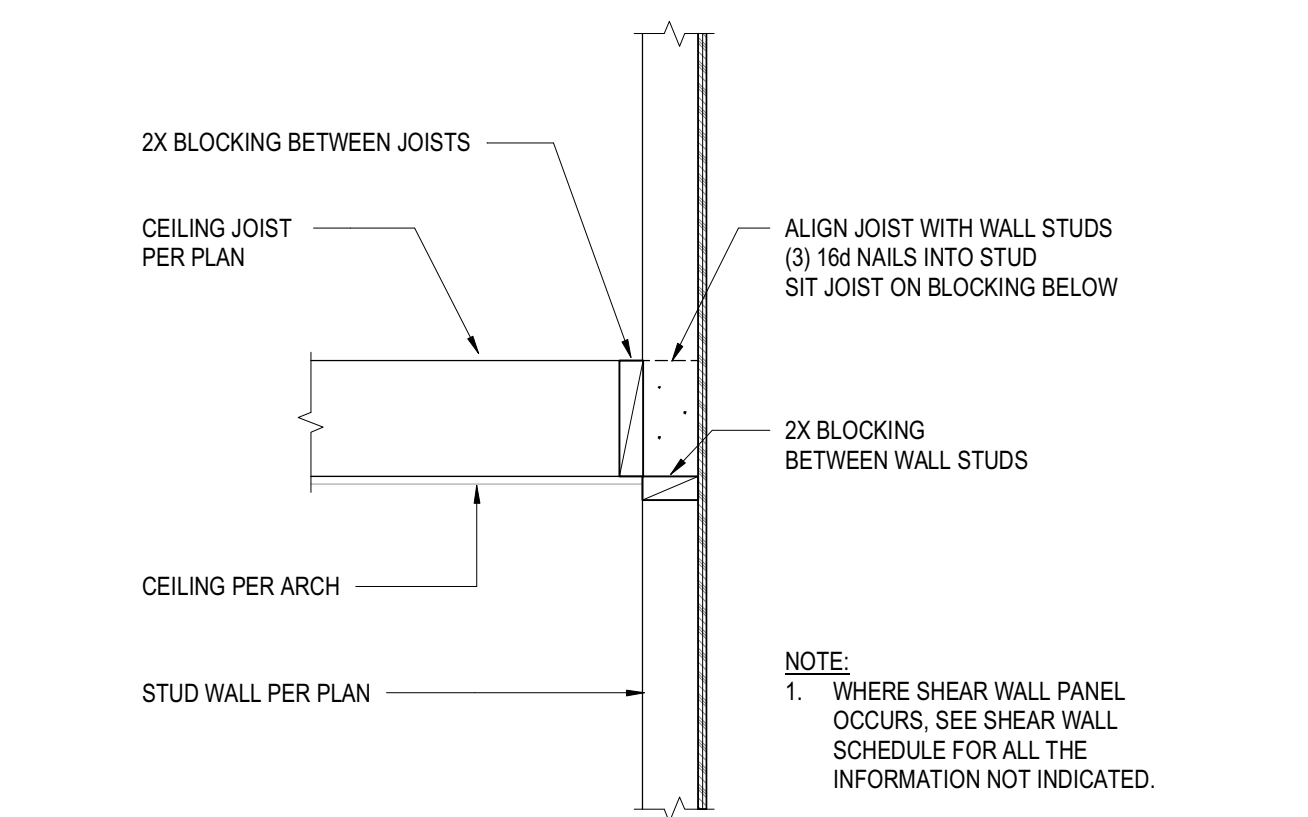
DATE: APRIL 1, 2022

SCALE: AS NOTED

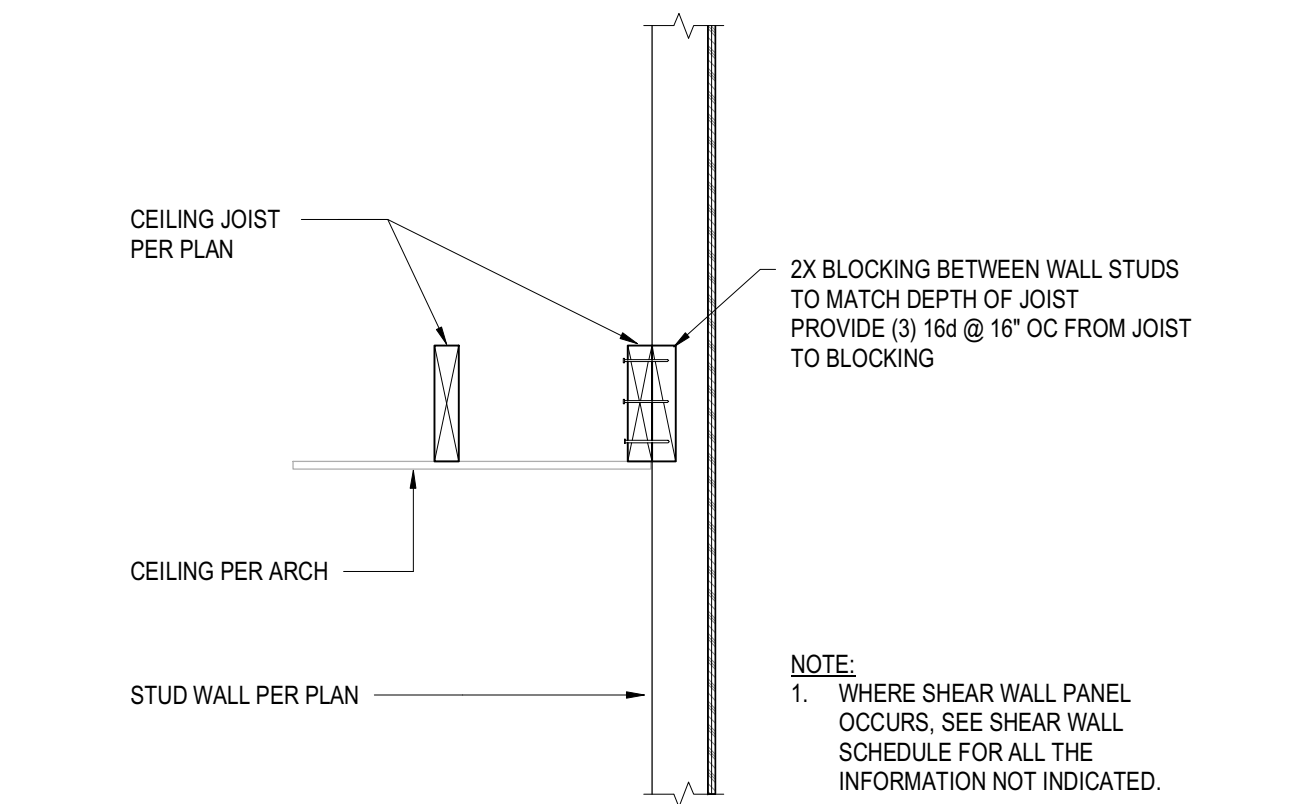
DRAWN BY:

S.010

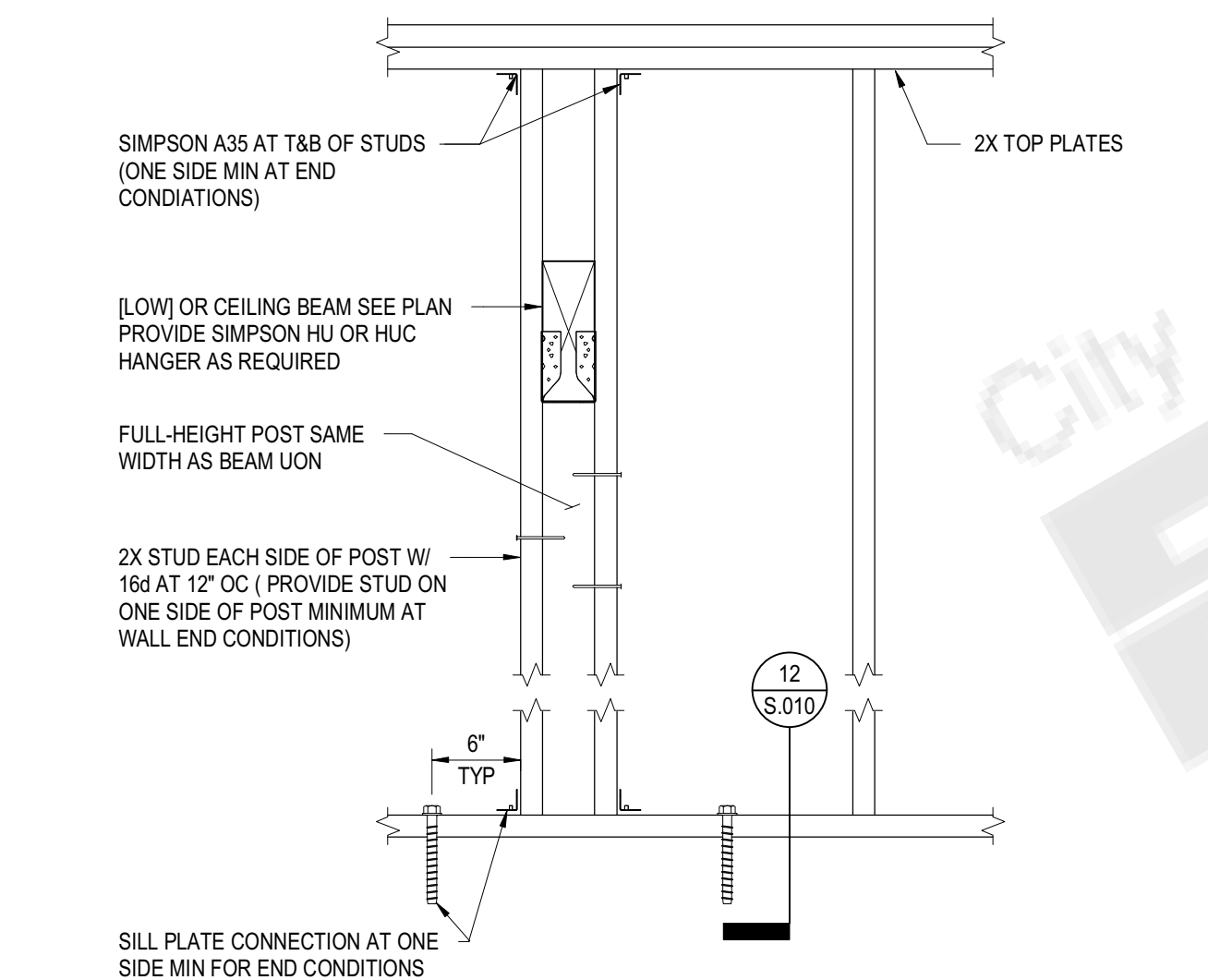
© Aaron Neubert Architects, INC. 2021



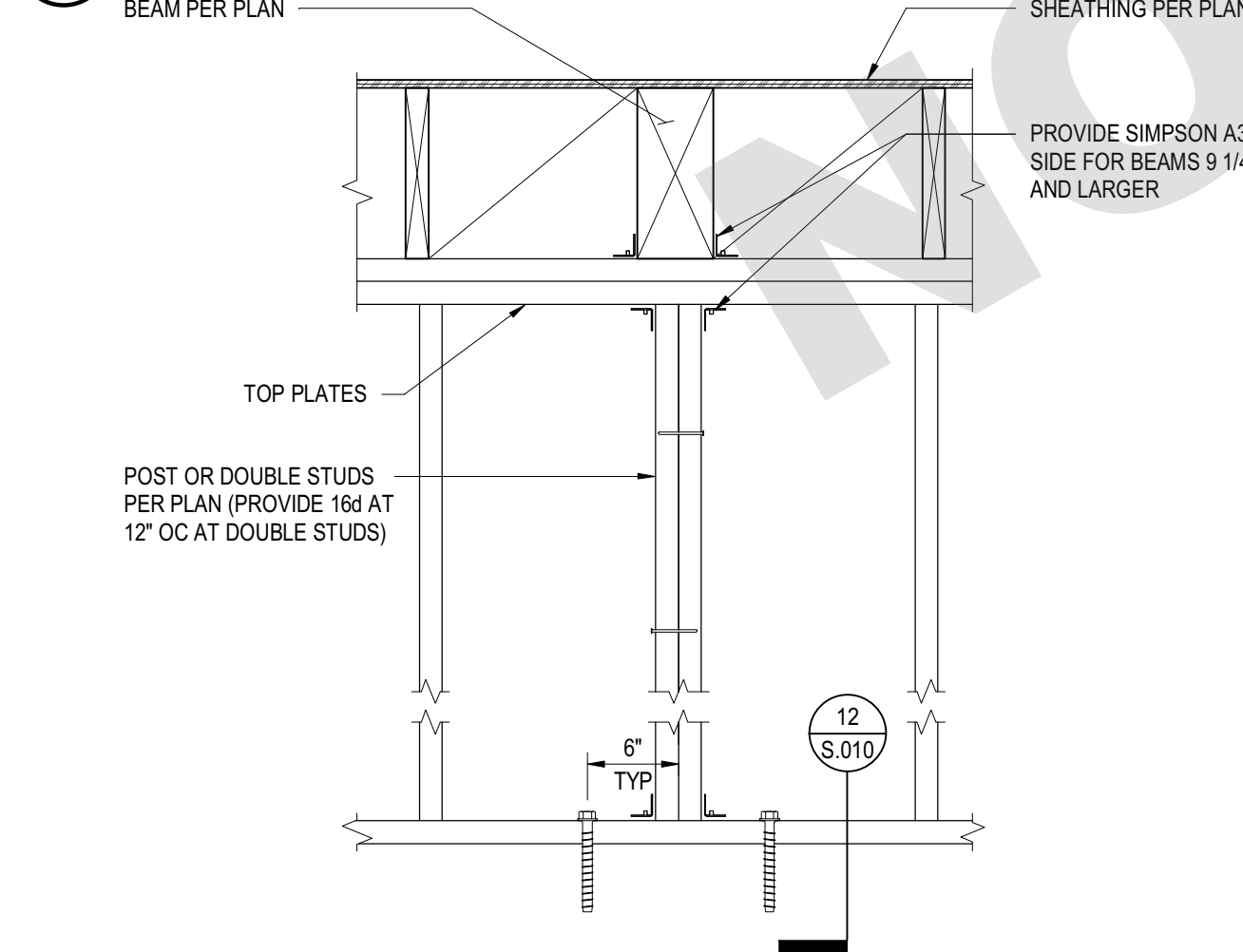
13 CEILING JOIST PERPENDICULAR TO WALL
NOT TO SCALE



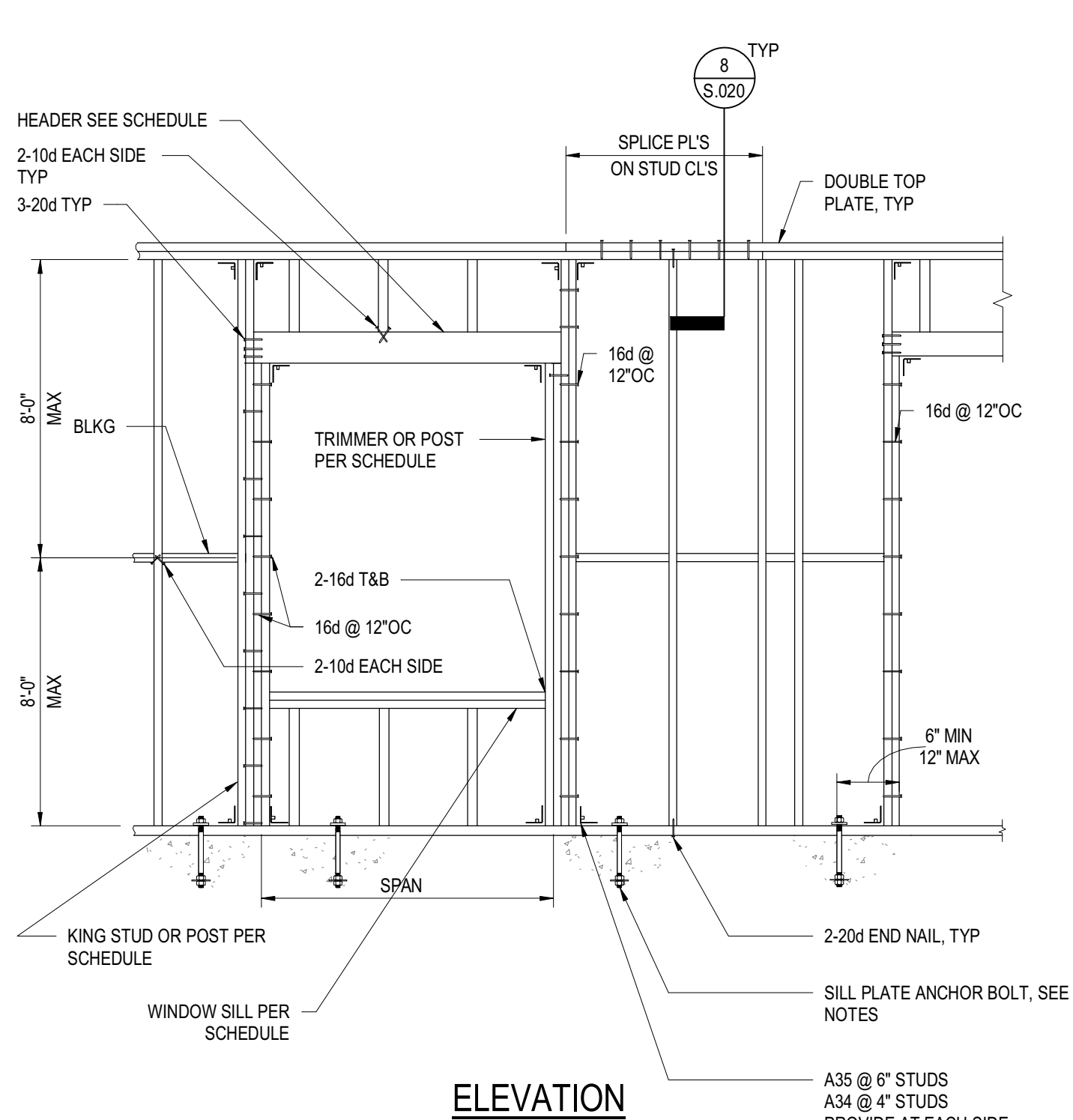
14 CEILING JOIST PARALLEL TO WALL
NOT TO SCALE



5 LOW BEAM PERPENDICULAR TO WALL
NOT TO SCALE



16 FLUSH BEAM PERPENDICULAR TO WALL
NOT TO SCALE



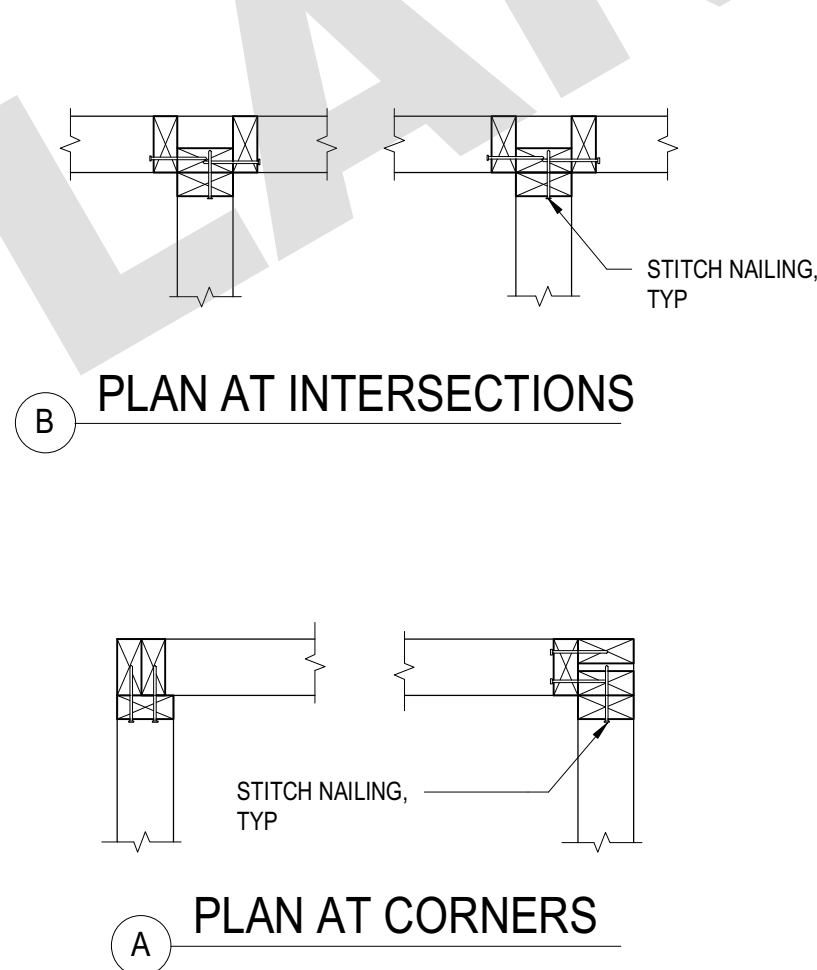
- NOTES:**
1. SILL PLATE ANCHOR BOLT TO BE 5/8\" DIA. WITH 3\"X3\"X0.229\" STEEL PLATE WASHER AND 0-8\" MIN EMBED AT 4-0\" OC UON.
 2. SILL PLATE ANCHOR BOLTS TO BE 6\" MIN/12\" MAX. FROM END OF SILL PLATE. MINIMUM (2) BOLTS PER PLATE.
 3. NOTCHES TO SILL PER DETAIL.
 4. AT NON BEARING WALLS, ACCEPTABLE TO REPLACE ANCHOR BOLTS WITH SIMPSON PDPW-300 @ 24\" OC (ICC-ESR 2138). POWDER DRIVEN FASTENERS SHALL NOT BE USED IN STEM WALLS LESS THAN 5 1/2\" WIDE OR GREATER THAN 5 1/2\" HIGH.
 5. STUD SIZE AND SPACING PER STUD WALL SCHEDULE (2X4 @ 16\" OC OR 2X6 @ 16\" OC MINIMUM).
 6. SILL PLATE ANCHOR BOLTS SHALL BE LOCATED IN THE MIDDLE THIRD WIDTH OF THE SILL PLATE.
 7. IF FINGER JOINTED STUDS ARE USED, STUDS MUST BE GRADE STAMPED BY AN APPROVED ICC INSPECTION AGENCY AND CLEARLY SPECIFIED ON PLANS.
 8. SILL PLATES ON MASONRY OR CONCRETE SHALL BE PRESSURE TREATED AND 3X MIN.

WALL STUD SCHEDULE		
LEVEL	STUD DEPTH	STUD REQUIREMENT
ALL FLOORS	5 1/2"	2X6 @ 16\" OC

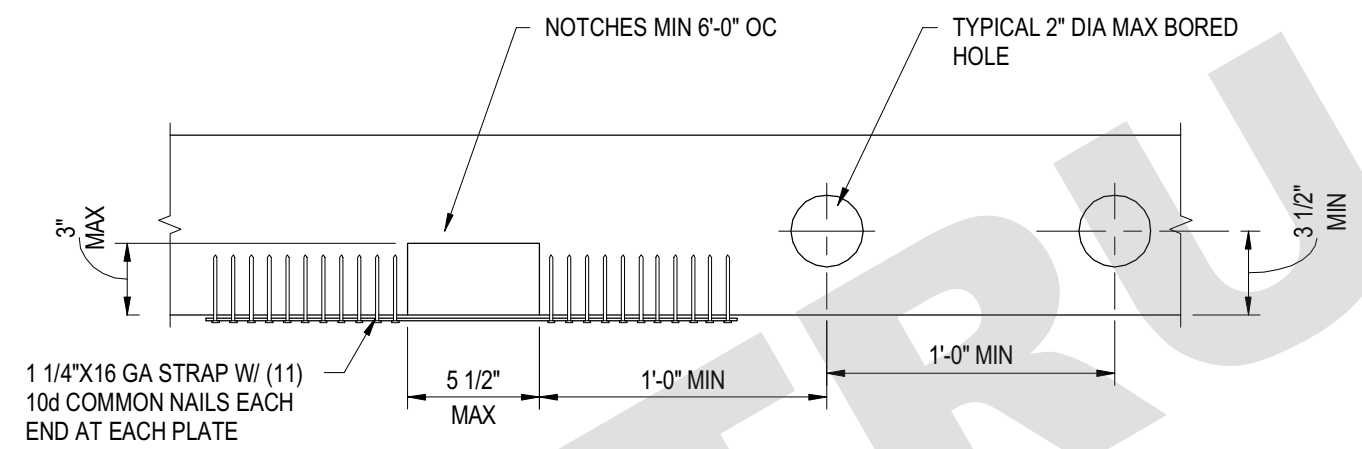
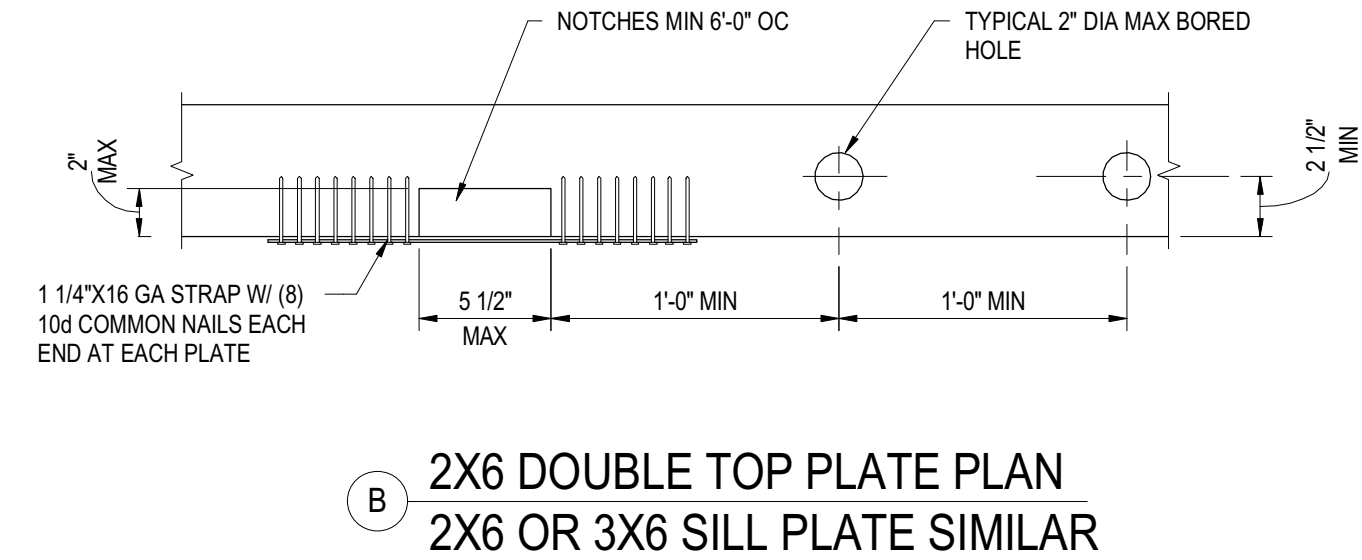
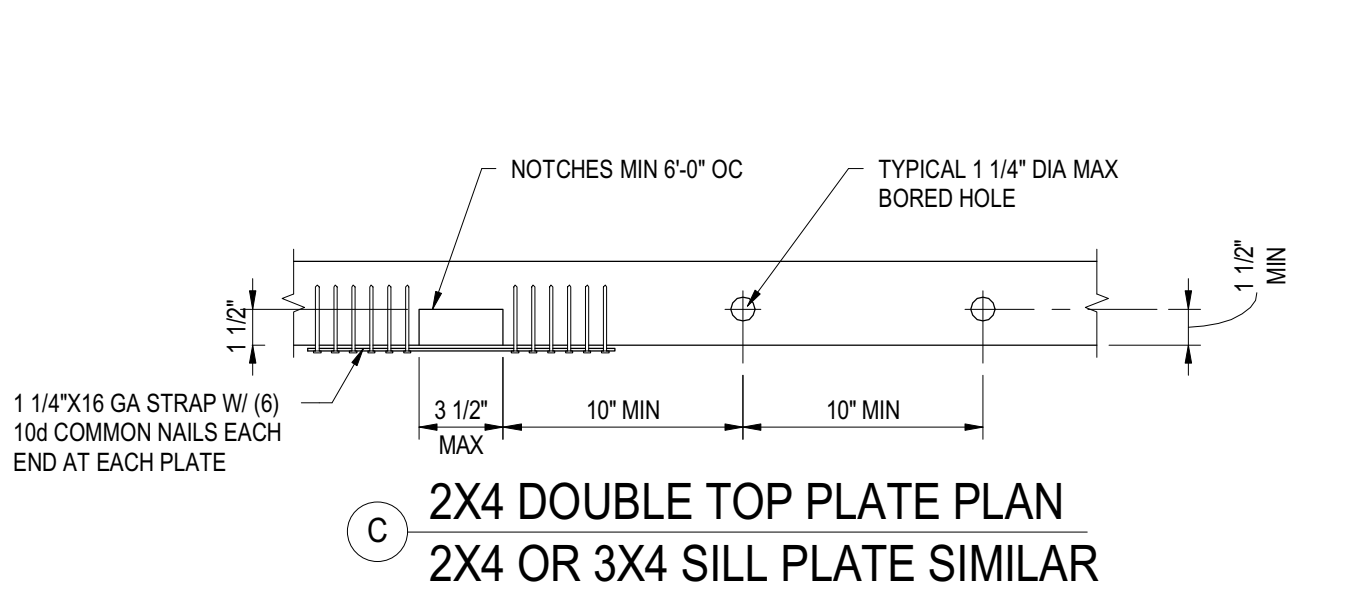
KING/TRIMMER SCHEDULE UON			WINDOW SILL SCHEDULE	
KING	TRIMMER	SPAN	SILL MEMBER	SILL SPAN
2X OR POST	2X	<= 4'-0"	2X	<=4'-0"
(2)-2X OR POST	(2)-2X	<= 8'-0"	(2)-2X	<=8'-0"
(3)-2X	(3)-2X OR POST	> 8'-0"	4X	<=12'-0"
			6X	<=15'-0"

MAX OPENING SIZE	LOAD BEARING HEADER				NON-LOAD BEARING HEADER	
	HEADER SIZE AT FLOOR		HEADER SIZE AT ROOF		HEADER SZ. AT FLR. AND RF.	
	4\" WALL	6\" WALL	4\" WALL	6\" WALL	4\" WALL	6\" WALL
4'-0"	4X8	6X6	4X6	6X6	4X4	4X6 FLAT
6'-0"	4X10	6X8	4X8	6X6	4X4	6X6
8'-0"	3 1/2 X 11 7/8 LVL	6X10	4X10	6X8	4X8	6X8

11 STUD WALL FRAMING
NOT TO SCALE

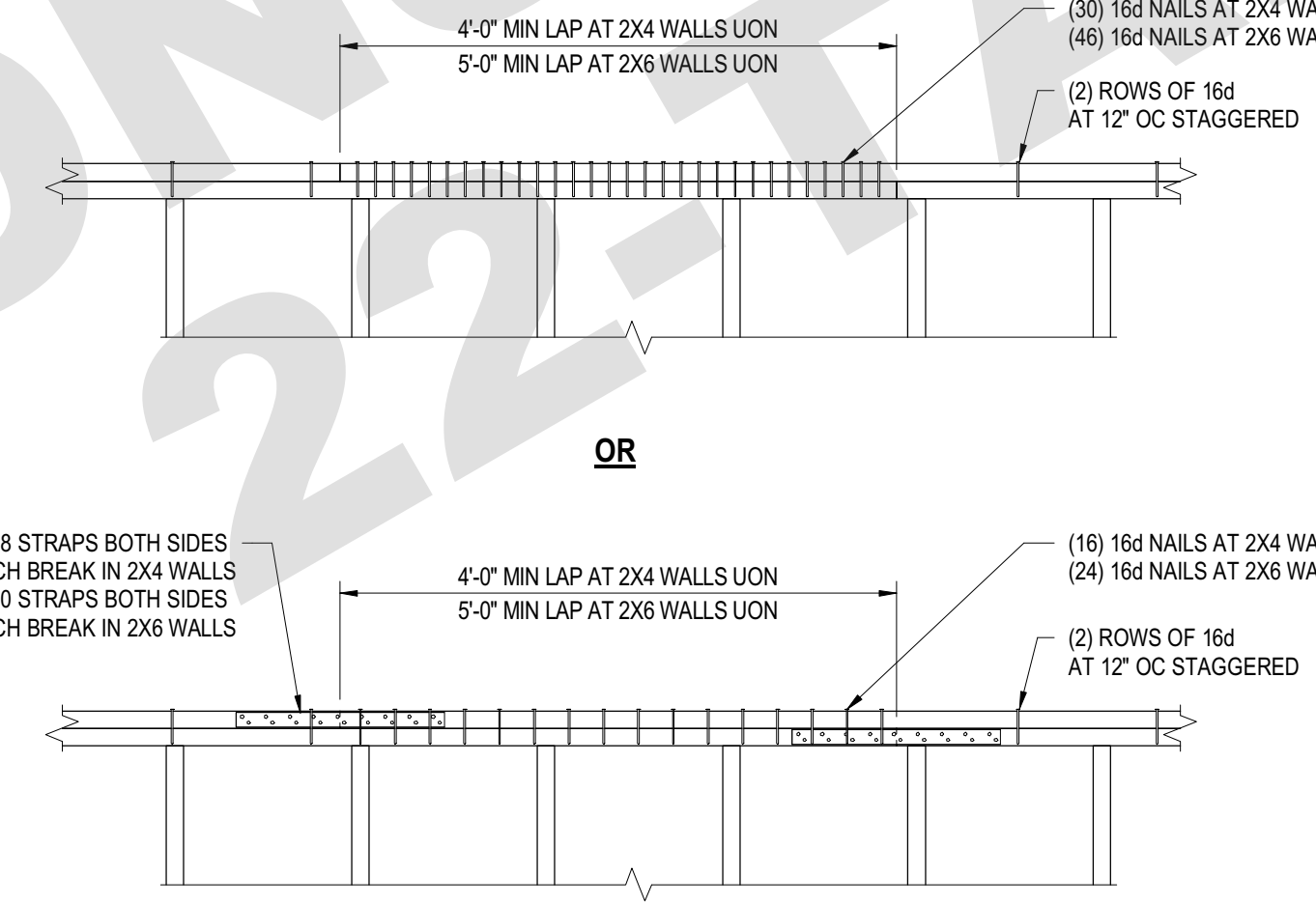


12 STUD WALL CORNERS AND INTERSECTIONS
NOT TO SCALE

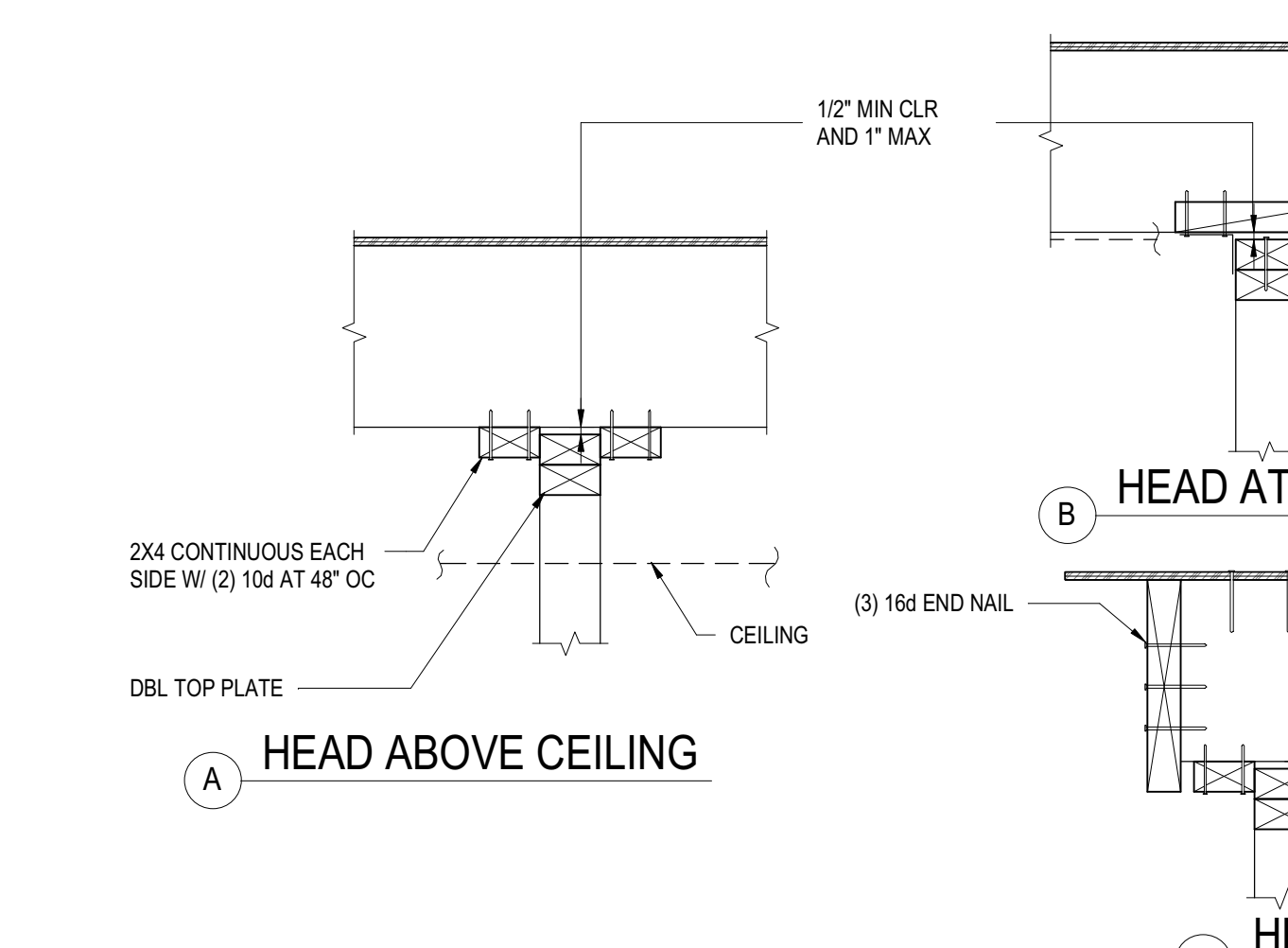


2X8 DOUBLE TOP PLATE PLAN
2X8 OR 3X8 SILL PLATE SIMILAR

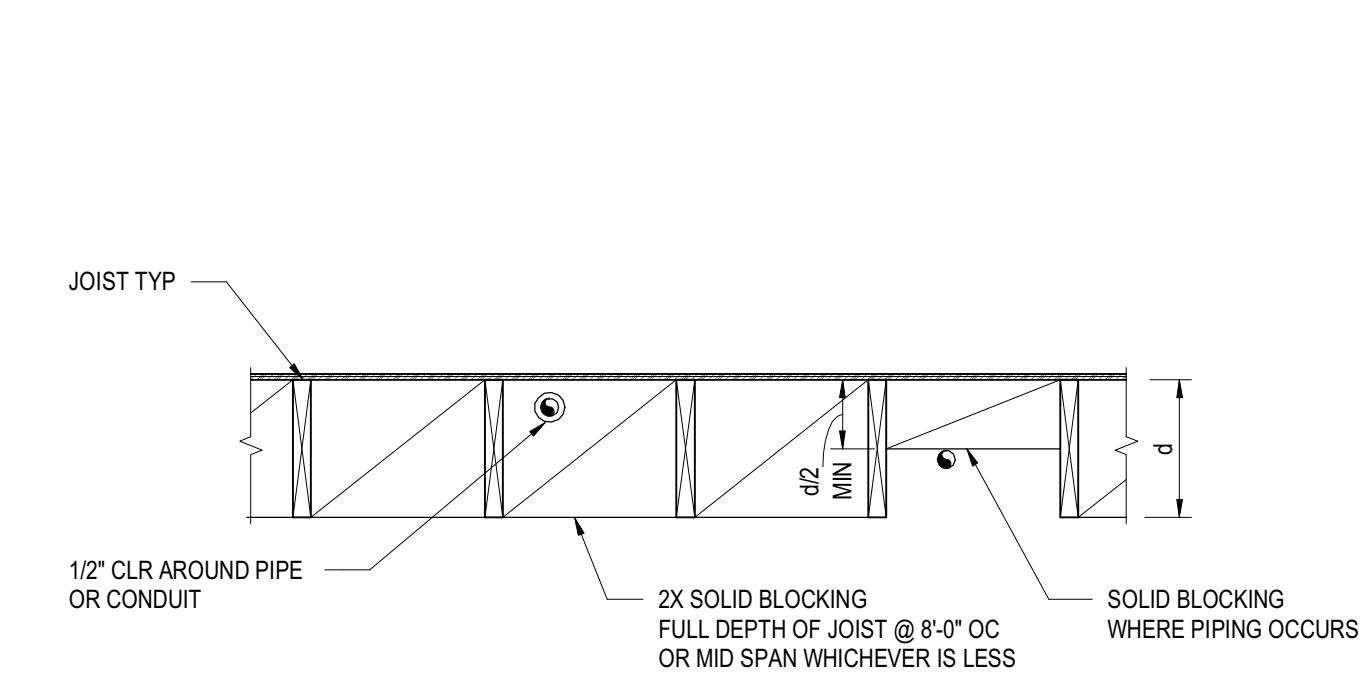
6 PENETRATIONS IN TOP OR BOTTOM PLATE
NOT TO SCALE



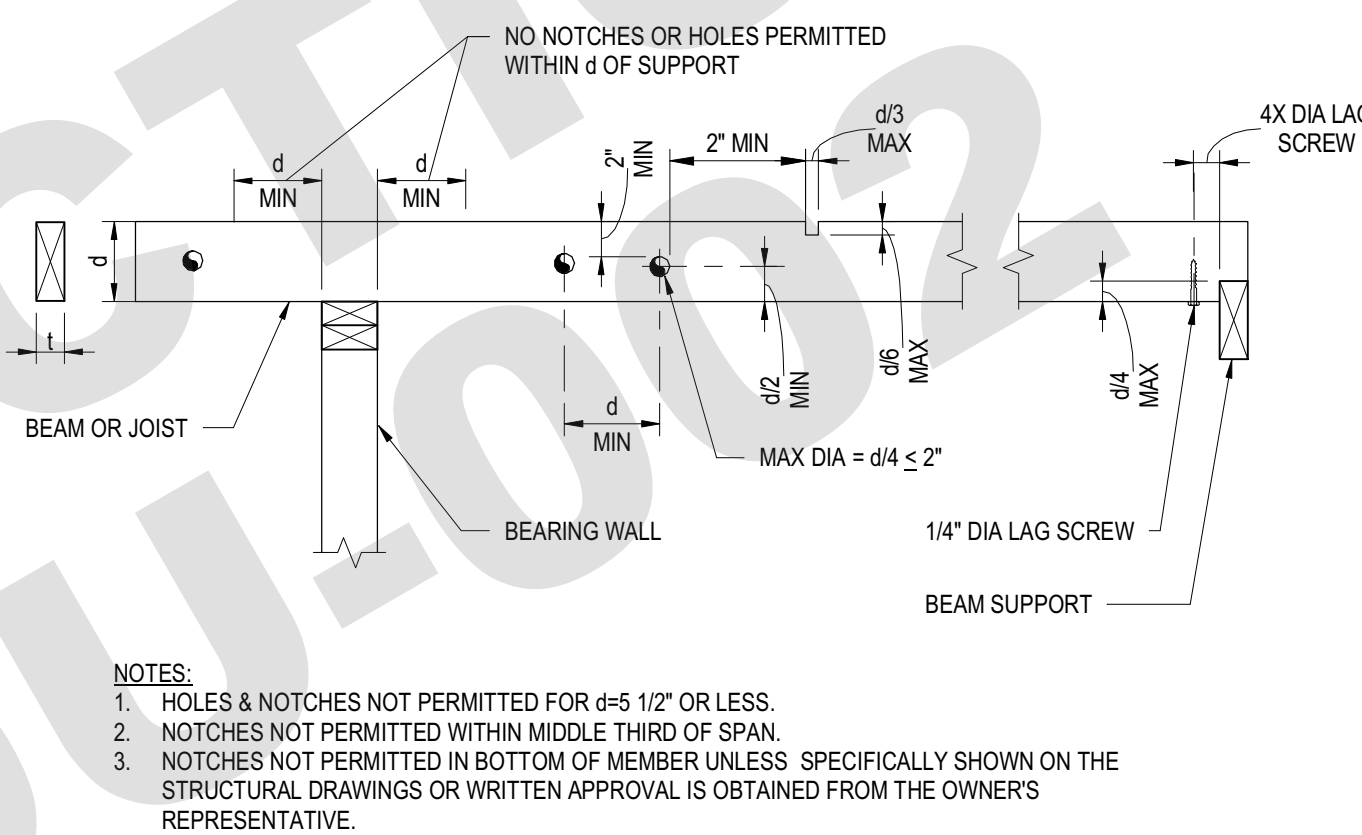
7 TOP PLATE SPLICE
NOT TO SCALE



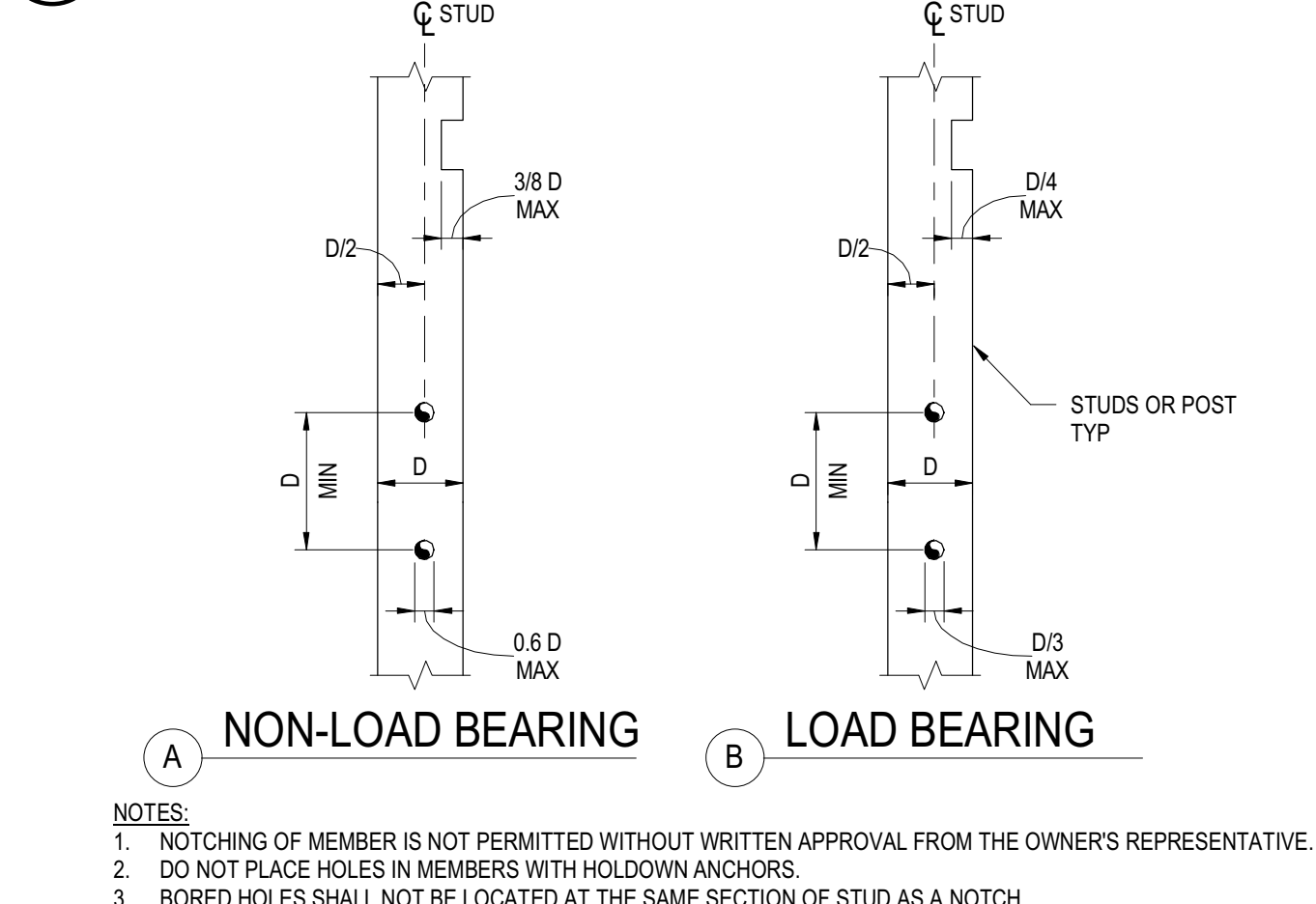
8 JOIST AT STUD WALL (NON-BEARING)
NOT TO SCALE



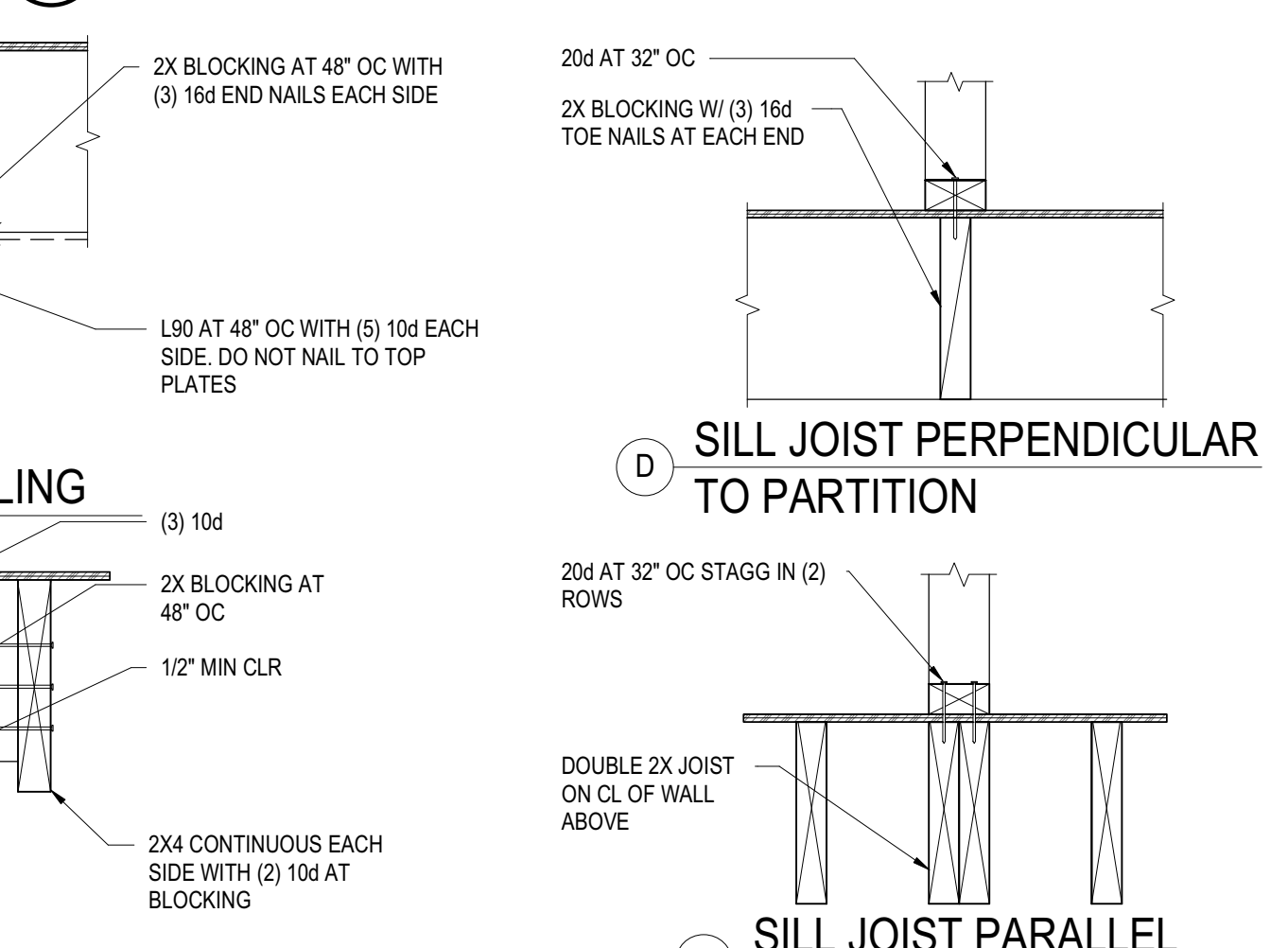
1 WOOD JOIST BLOCKING
NOT TO SCALE



2 HOLES AND NOTCHES IN BEAMS AND JOISTS
NOT TO SCALE



3 HOLES AND NOTCHES IN STUDS OR POSTS
NOT TO SCALE



3 HOLES AND NOTCHES IN STUDS OR POSTS
NOT TO SCALE



AARON NEUBERT ARCHITECTS

ADU PROGRAM

OWNER:

CITY OF FRESNO
PLANNING AND DEVELOPMENT DEPARTMENT
2000 FRESNO STREET, 3RD FLOOR
FRESNO, CA 93721

ARCHITECT:

AARON NEUBERT ARCHITECTS, INC.
2814 ROWENA AVENUE, SUITE ONE
LOS ANGELES, CALIFORNIA 90009
P. 323.953.4700 F. 323.953.4900
AARON NEUBERT CAP C-29005

STRUCTURAL ENGINEER:

NOUS ENGINEERING, INC.
600 WALSHRE BOULEVARD, SUITE 700
LOS ANGELES, CALIFORNIA 90017
P. 213.927.6607

MEP ENGINEER:

INNODEZ DESIGN AND ENGINEERING
726 FORBROUGH PLACE
PLEASANTON, CALIFORNIA 94566
P. 424.414.0907

REVISION:

DATE:

COMMENT:

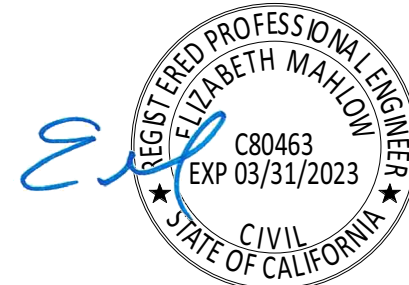
2

REVISION #2 06.03.22 PLAN CHECK CORRECTIONS

1

REVISION #1 04.01.22 PLAN CHECK CORRECTIONS

SEAL:



Project No. 2104

ADU PROGRAM

CITY OF FRESNO
CALIFORNIA

DRAWING TITLE:

ADU 02 TYPICAL WOOD DETAILS - GENERAL AND STUD WALLS

DATE: APRIL 1, 2022

SCALE: AS NOTED

DRAWN BY:

S.020

© Aaron Neubert Architects, INC. 2021



OWNERS:

CITY OF FRESNO
PLANNING AND DEVELOPMENT DEPARTMENT
2600 FRESNO STREET, 3RD FLOOR
FRESNO, CA 93721

ARCHITECT

AARON NEUBERT ARCHITECTS, INC.
2814 ROWENA AVENUE, SUITE ONE
LOS ANGELES, CALIFORNIA 90039
P. 323.953.4700 F. 323.953.4900

AARON NEUBERT CA# C-29005

STRUCTURAL ENGINEER

NOUS ENGINEERING, INC
600 WILSHIRE BOULEVARD, SUITE 760
LOS ANGELES, CALIFORNIA 90017
P. 213.627.6687

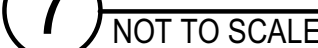
MEP ENGINEER:

INNODEZ DESIGN AND ENGINEERING
726 FOXBROUGH PLACE
PLEASANTON, CALIFORNIA 94586
P. 424.414.0997



1. REFER TO ROUGH CARPENTRY NOTES FOR ADDITIONAL FRAMING REQUIREMENTS.
2. REFER TO PLAN & SHEAR WALL LEGEND FOR SHEAR WALL TYPE.
3. PLYWOOD FACE GRAIN TO BE VERTICAL.
4. SHEATHING FOR SINGLE-SIDED SHEAR WALLS MAY BE PLACED ON EITHER FACE OF WALL UON. PROVIDE 1/2" MINIMUM SRENGTHENING IN PLAN AND COORDINATE WITH ARCHITECTURAL FINISHES.
5. NAILING SHALL BE 10" COMMON WITH 1 1/2" MINIMUM PENETRATION. NAILING SHALL BE 1/2" DISTANCE FROM PANEL EDGE AND 3X" DISTANCE FROM EDGE OF CONNECTING MEMBERS.
6. PLYWOOD JOINT AND SILL NAILING SHALL BE STAGGERED IN ALL CASES.
7. WHEN SHEATHING IS APPLIED ON BOTH SIDES OF STUDS, NAILS ON EACH SIDE OF SHEATHING JOINT, SILL PLATES, HOLD DOWN PIRTS AND TOP PLATES SHALL BE STAGGERED.
8. PLYWOOD PANELS SHALL ABUT LONGER CENTERLINES OF FRAMING MEMBERS. THE MINIMUM PLYWOOD DIMENSION FOR USE SHALL BE 12".
9. A35 OR LPT4 SHEAR TRANSFER SHALL BE CONNECTING TO PLATE AND BLOCKING, JOINT OR RAFTER.
10. SILL PLATES ON MASONRY OR CONCRETE SHALL BE PRESSURE TREATED AND 3X MIN.
11. SEE PLAN AND TYPICAL DETAILS FOR SPECIFIC JOINTS AND EXCEPTS.
12. AT ALL EXTERIOR AND INTERIOR BEARING WALLS NOT NOTED AS SHEAR WALLS, BLOCKING SHALL BE PROVIDED BETWEEN JOISTS AND/OR RAFTERS WITH A35, LPT4, OR LPT5 TO TOP PLATES AT 16"OC AT FLOOR AND 24"OC AT ROOF CONDITIONS UON.
13. SILL PLATE ANCHOR BOLTS SHALL BE LOCATED IN THE 4'-0" THIRD EXPERT OF THE SILL PLATE.
14. WOOD STRUCTURAL MEMBERS SHALL NOT BE LESS THAN 4'-0" X 6'-0" EXCEPT AT BOUNDARIES AND CHANGES IN FRAMING WHERE MINIMUM PANEL DIMENSION SHALL BE 2'-0" UNLESS ALL EDGES OF THE UNDERSIZED PANELS ARE SUPPORTED BY AND FASTENED TO FRAMING MEMBERS OR BLOCKING.

6 NOT TO SCALE



- CS16 STRAP IS REQUIRED WHEN:
- THE PENETRATION IS LARGER THEN 25% OF WALL LENGTH.
 - THE PENETRATIONS ARE CLOSER THAN 32" OC.
 - A SECOND HORIZONTAL STRAP IS REQUIRED AT THE BOTTOM OF OPENING WHEN BOTTOM OF OPENING IS NOT AT BOTTOM PLATE.
- 16X16 MAXIMUM OPENING SIZE.
 - BLOCKING AND STRAPS NOT REQUIRED WHEN PENETRATION IS LESS THAN OR EQUAL TO 6"
 - AND SPACED AT 2 OR MORE STUD BAYS.

8 NOT TO SCALE

ADU PROGRAM

CITY OF FRESNO
CALIFORNIA

DRAWING TITLE

ADU 02

ADU 02
TYPICAL WOOD DETAILS - SHEAR
WALLS

DATE: APRIL 1, 2022

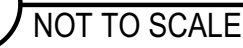
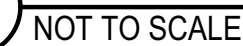
SCALE: AS NOTED

DRAWN BY

S.021



14 NOT TO SCALE



S.022

© Aaron Neubert Architects, INC. 202

ADU PROGRAM

OWNER:

CITY OF FRESNO
PLANNING AND DEVELOPMENT DEPARTMENT
2000 FRESNO STREET, 3RD FLOOR
FRESNO, CA 93721

ARCHITECT:

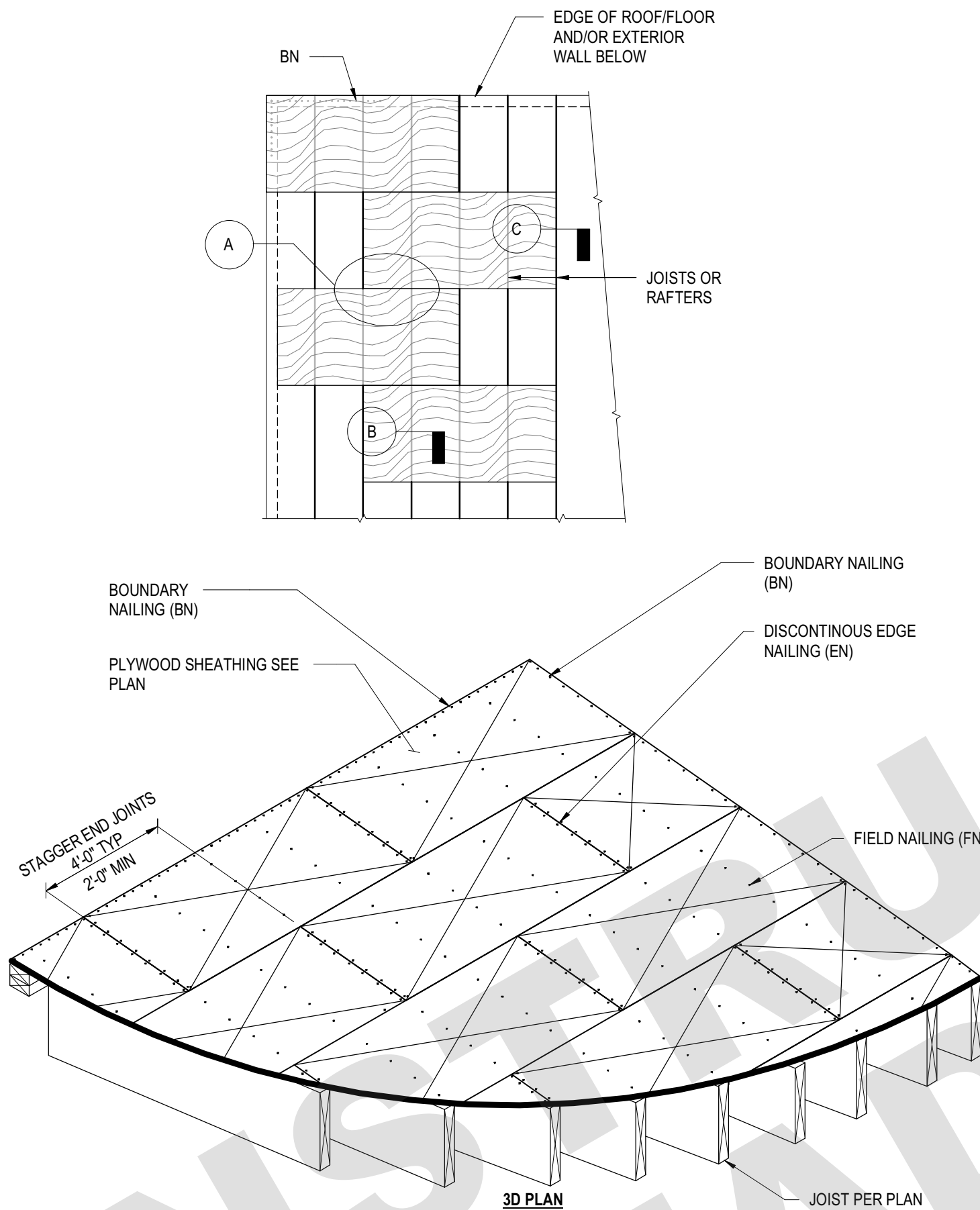
AARON NEUBERT ARCHITECTS, INC.
2814 ROWENA AVENUE, SUITE ONE
LOS ANGELES, CALIFORNIA 90009
P. 323.953.4700 F. 323.953.4900
AARON NEUBERT C.A.P. C-29025

STRUCTURAL ENGINEER:

NOUS ENGINEERING, INC.
600 WALSHRUE BOULEVARD, SUITE 700
LOS ANGELES, CALIFORNIA 90017
P. 213.827.6687

MEP ENGINEER:

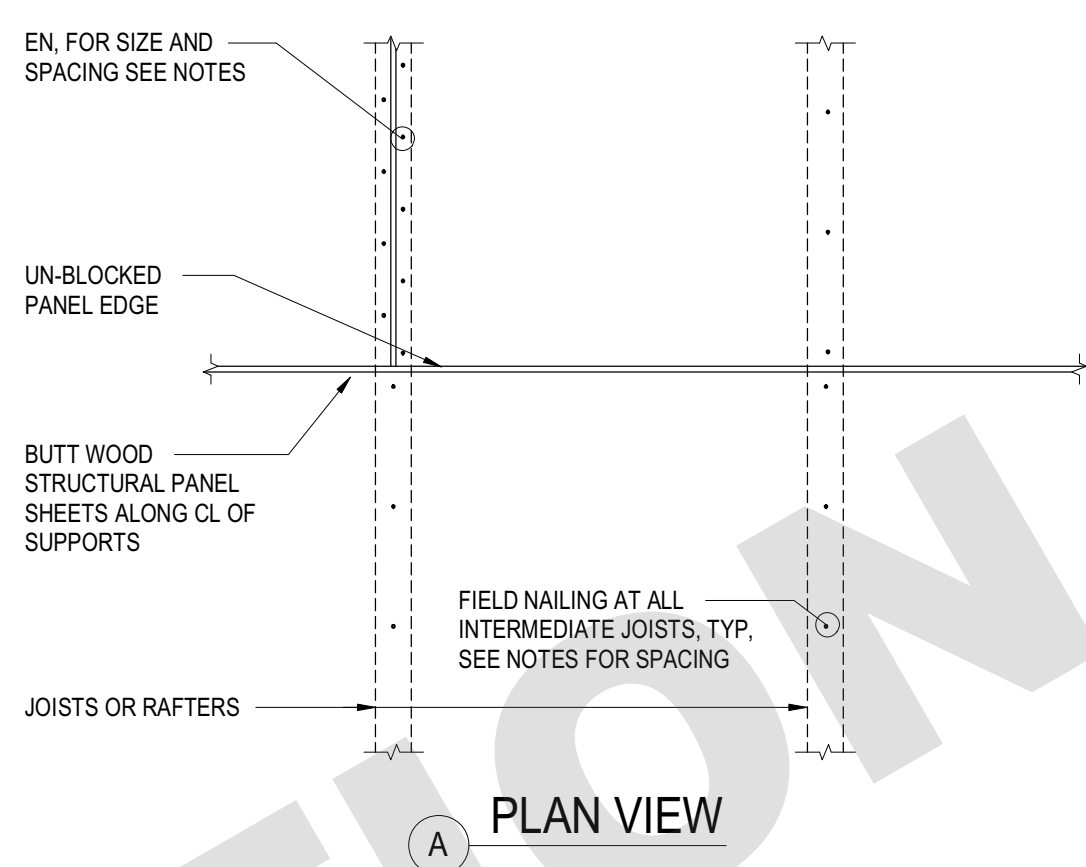
INNODÉZ DESIGN AND ENGINEERING
726 FORBROUGH PLACE
PLEASANTON, CALIFORNIA 94566
P. 424.414.0907



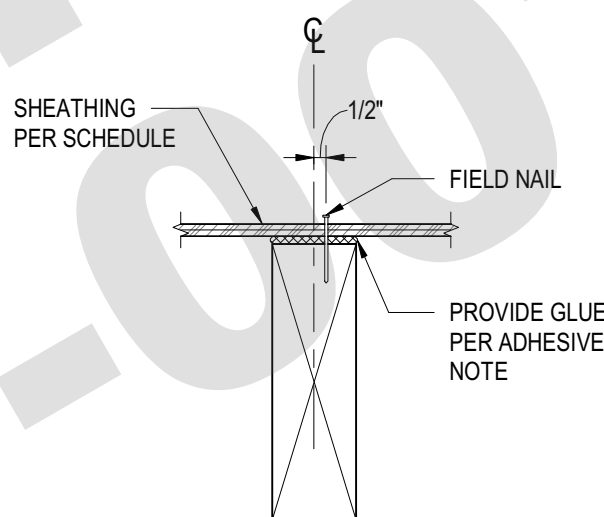
- NOTES:**
- WOOD STRUCTURAL PANELS SHALL NOT BE LESS THAN 4'-0" X 8'-0" EXCEPT AT BOUNDARIES AND CHANGES IN FRAMING. WHERE MINIMUM PANEL DIMENSION SHALL BE 24" UNLESS ALL EDGES OF THE UNDERSIZED PANELS ARE SUPPORTED BY AND FASTENED TO FRAMING MEMBERS OR BLOCKING.
 - PLACE WOOD STRUCTURAL PANEL SHEET WITH FACE PLIES PERPENDICULAR TO JOISTS AND STAGGER 4'-0" EDGES AS SHOWN.
 - COORDINATE JOIST LAYOUT WITH 4'-0" MODULE AS RELATED TO STRUCTURAL 1 RATED SHEATHING EXPOSURE 1.
 - ADHESIVE (FLOOR SHEATHING ONLY): ADHESIVE SHALL CONFORM TO APA SPECIFICATION AFG-01 OR ASTM D3498, APPLIED IN ACCORDANCE WITH THE ADHESIVE MANUFACTURER'S RECOMMENDATIONS. IF OSB PANELS WITH SEALED SURFACES AND EDGES ARE TO BE USED, USE ONLY SOLVENT-BASED GLUES; CHECK WITH PANEL MANUFACTURER. EXECUTION:
 - APPLY A BEAD OF GLUE ABOUT 1/4 INCH IN DIA TO ALL CONTACT/BEARING SURFACES. ON WIDE AREAS APPLY GLUE IN SERPENTINE PATTERN.
 - APPLY TWO BEADS OF GLUE ON JOISTS WHERE PANEL ENDS BUTT.
 - APPLY GLUE PROGRESSIVELY TO BUTTING EDGES OF PANELS AND INTO GROOVED EDGES OF TONGUE AND GROOVE PANELS AS WORK PROCEEDS. COMPLETE NAILING OF EACH PANEL BEFORE GLUE SETS.
 - AT INTERIOR SHEARWALL LOCATIONS, PROVIDE DOUBLE LINES OF DIAPHRAGM NAILING INTO TRANSFER BLOCKING OR TOP PLATES.

DIAPHRAGM SHEATHING SCHEDULE								
DIAPH TYPE	SHEATHING	PANEL INDEX	NAILING					
			LINES OF FASTENERS	TYPE*	WIDTH OF NAILED FACE	BN	EN	FN
D1	15/32"	32/16	1	10d COMMON	2"	6"	6"	12"

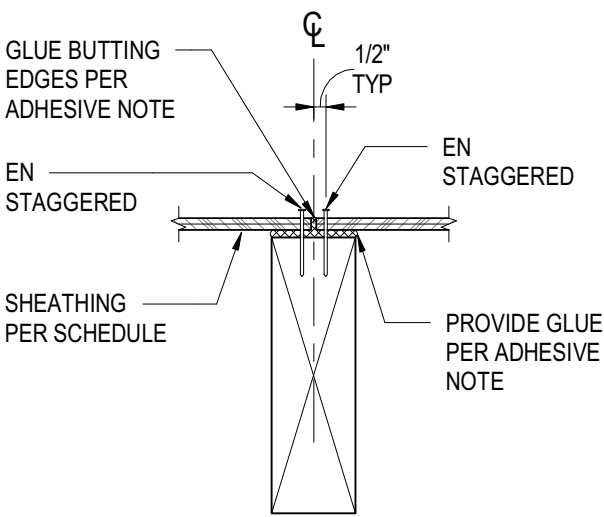
* NAILING TO BE RING OR SPIRAL SHANK, FULL HEAD.



PLAN VIEW



SECTION B



SECTION C

7 UNBLOCKED DIAPHRAGM SHEATHING SCHEDULE
NOT TO SCALE

REVISION:

DATE:

COMMENT:

2 REVISION #2 06.03.22 PLAN CHECK CORRECTIONS

1 REVISION #1 04.01.22 PLAN CHECK CORRECTIONS

SEAL:



Project No. 2104

ADU PROGRAM

CITY OF FRESNO
CALIFORNIA

DRAWING TITLE:

ADU 02
TYPICAL WOOD DETAILS -
DIAPHRAGMS

DATE: APRIL 1, 2022

SCALE: AS NOTED

DRAWN BY:

S.023

© Aaron Neubert Architects, INC. 2021



ONNE

CITY OF FRESNO
PLANNING AND DEVELOPMENT DEPARTMENT
2600 FRESNO STREET, 3RD FLOOR
FRESNO, CA 93721

AARON NEUBERT ARCHITECTS, INC.
2814 ROWENA AVENUE, SUITE ONE
LOS ANGELES, CALIFORNIA 90039
P. 323.953.4700 F. 323.953.4900

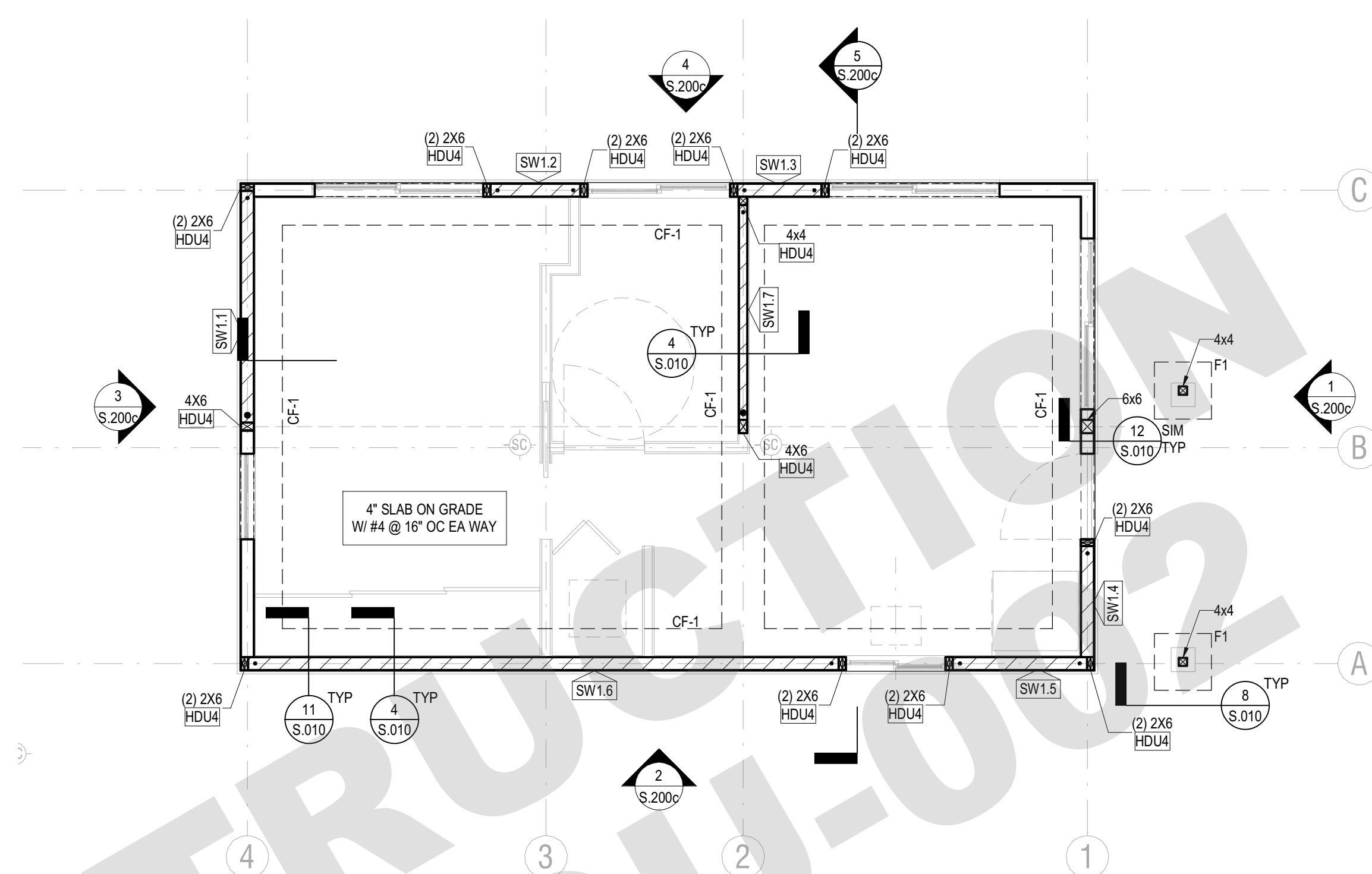
AARON NEUBERT CA# C-29005

STRUCTURAL ENGINEER

NOUS ENGINEERING, INC
600 WILSHIRE BOULEVARD, SUITE 760
LOS ANGELES, CALIFORNIA 90017
P. 213.627.6687

MEP ENGINEER

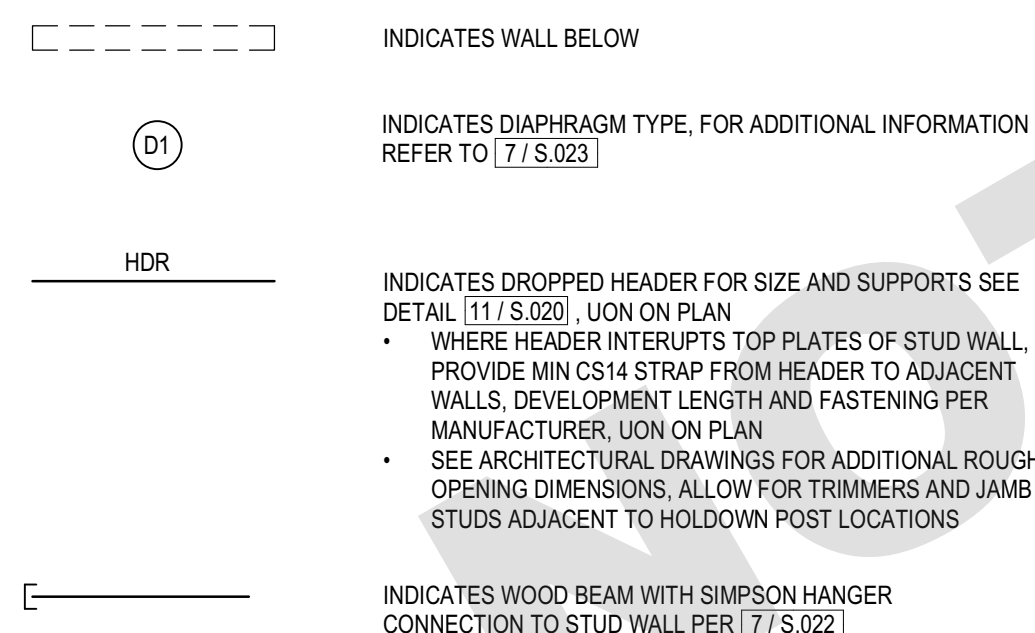
INNODEZ DESIGN AND ENGINEERING
726 FOXBROUGH PLACE
PLEASANTON, CALIFORNIA 94586
P. 424.414.0997



FRAMING PLAN NOTES

1. REFER TO 90 SERIES SHEETS FOR GENERAL NOTES AND TYPICAL DETAILS.
2. DEPRESSIONS, CURBS, AND OPENINGS SHOWN ON THIS PLAN ARE NOT COMPLETE AS TO NUMBER, SIZE, AND LOCATION. FOR COMPLETE INFORMATION, REFER TO DRAWINGS OTHER THAN STRUCTURAL.
3. GENERAL CONTRACTOR SHALL COORDINATE THE LOCATION OF EQUIPMENT SUPPORT BEAMS AND BEAMS AROUND FLOOR OPENINGS WITH ALL PROJECT REQUIREMENTS.
4. WHERE DROPPED CEILINGS OCCUR, CONNECT TO ADJACENT STUD WALLS PER DETAIL 13/ S.020 AND 14/ S.020.

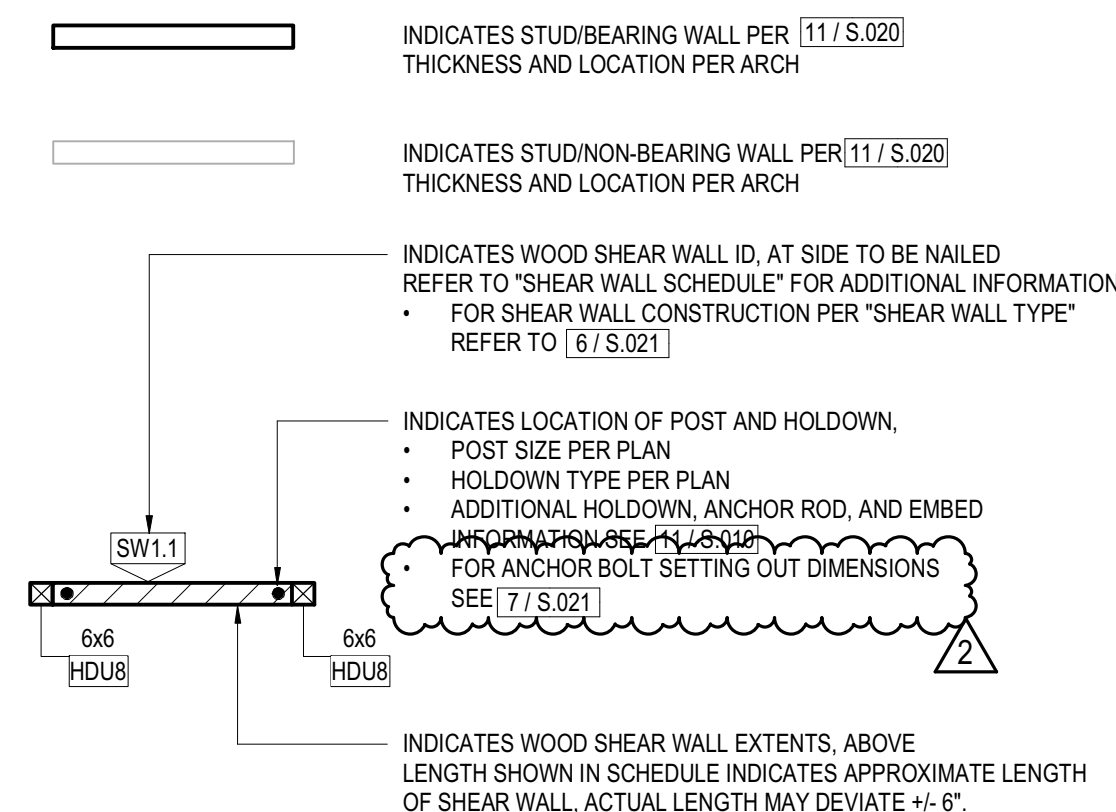
FRAMING PLAN LEGEND



FOUNDATION PLAN NOTES

1. TOP OF FOOTING GRADE BEAM ELEVATION TO BE 1'-0" BELOW TOP OF SLAB OR FINISHED GRADE, UON.
2. REFER TO 30 SERIES SHEETS FOR GENERAL NOTES AND TYPICAL DETAILS.
3. ALL SETTING OUT DIMENSIONS ARE TO BE READ IN CONJUNCTION AND CONFIRMED WITH ARCHITECTURAL DRAWINGS.
4. EXCAVATIONS SHALL BE MADE AS NEAR AS POSSIBLE TO THE NEAT LINES REQUIRED BY THE SIZE AND SHAPE OF THE STRUCTURE. NO MATERIAL IS TO BE EXCAVATED UNNECESSARILY.
5. CURB AND DEPRESSIONS ARE SHOWN FOR REFERENCE ONLY. SEE ARCH DWGS FOR LOCATIONS, HEIGHT, AND THICKNESS.
6. SEE ARCH DWGS FOR EDGE OF SLAB LOCATIONS.
7. VERIFY LOCATION OF UNDERGROUND UTILITIES BEFORE EXCAVATIONS. NOTIFY ARCHITECT PRIOR TO EXCAVATION IN THE EVENT SUCH UTILITIES ARE ENCOUNTERED.
8. FOR DRAINAGE DETAILS, SUMPS, PITS, DAM PROOFING, TRENCHES, CURBS, EXTERIOR WALKS, UTILITIES, EQUIPMENT DETAILS, STEPS, ETC., SEE DRAWINGS OTHER THAN STRUCTURAL.
9. SURFACE CONTROL JOINT LOCATIONS SHALL BE APPROVED BY THE ARCHITECT PRIOR TO PLACING ANY CONCRETE.
10. PROVIDE A 'C' CURB AT EXTERIOR TIMBER WALLS. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS.

FOUNDATION PLAN LEGEND



CONTINUOUS FOOTING SCHEDULE

TYPE MARK	WIDTH, W	DEPTH, D	TOP BARS	BOTTOM BARS	TIES
CF-1	1'-6"	1'-6"	(2) #5	(2) #5	#4 @ 12" OC

ISOLATED FOOTING SCHEDULE

TYPE MARK	WIDTH, W	LENGTH, B	DEPTH, D	TOP BARS	BOTTOM BARS
F1	2' - 0"	2'-0"	1'-6"	-	(3) #5 EA W

WOOD SHEAR WALL SCHEDULE

WALL ID	SHEAR WALL TYPE	LENGTH	WIDTH
SW1.1	A	8'-6"	5 1/2"
SW1.2	B	3'-6"	5 1/2"
SW1.3	B	3'-6"	5 1/2"
SW1.4	A	4'-0"	5 1/2"
SW1.5	A	5'-0"	5 1/2"
SW1.6	A	21'-0"	5 1/2"
SW1.7	A	8'-6"	3 1/2"

REVISION:	DATE:	COMMENT:
-----------	-------	----------

1 REVISION #1 04.01.22 PLAN CHECK CORRECTIONS

SEAI ·



Project No. 210

ADU PROGRAM

CITY OF FRESNO
CALIFORNIA

DRAWING TITLE

ADU 02
CRAFTSMAN FOUNDATION AND
FRAMING PLANS

DATE: APRIL 1 2022

SCALE: AS NOTED

DRAWN BY

© Aaron Neubert Architects, INC. 202

S.100c

CRAFTSMAN ROOF FRAMING PLAN

$$1/4'' = 1'-0''$$

 CRAFTSMAN FOUNDATION PLAN

$$\frac{1}{4}'' = 1'-0''$$



ONNEE

CITY OF FRESNO
PLANNING AND DEVELOPMENT DEPARTMENT
2600 FRESNO STREET, 3RD FLOOR
FRESNO, CA 93721

ARCHITECT

AARON NEUBERT ARCHITECTS, INC.

2814 ROWENA AVENUE, SUITE ONE
LOS ANGELES, CALIFORNIA 90039
P. 323.953.4700 F. 323.953.4900
AARON NEUBERT CA# C-29005

AARON NEUBERT CA# C-2900

STRUCTURAL ENGINEER

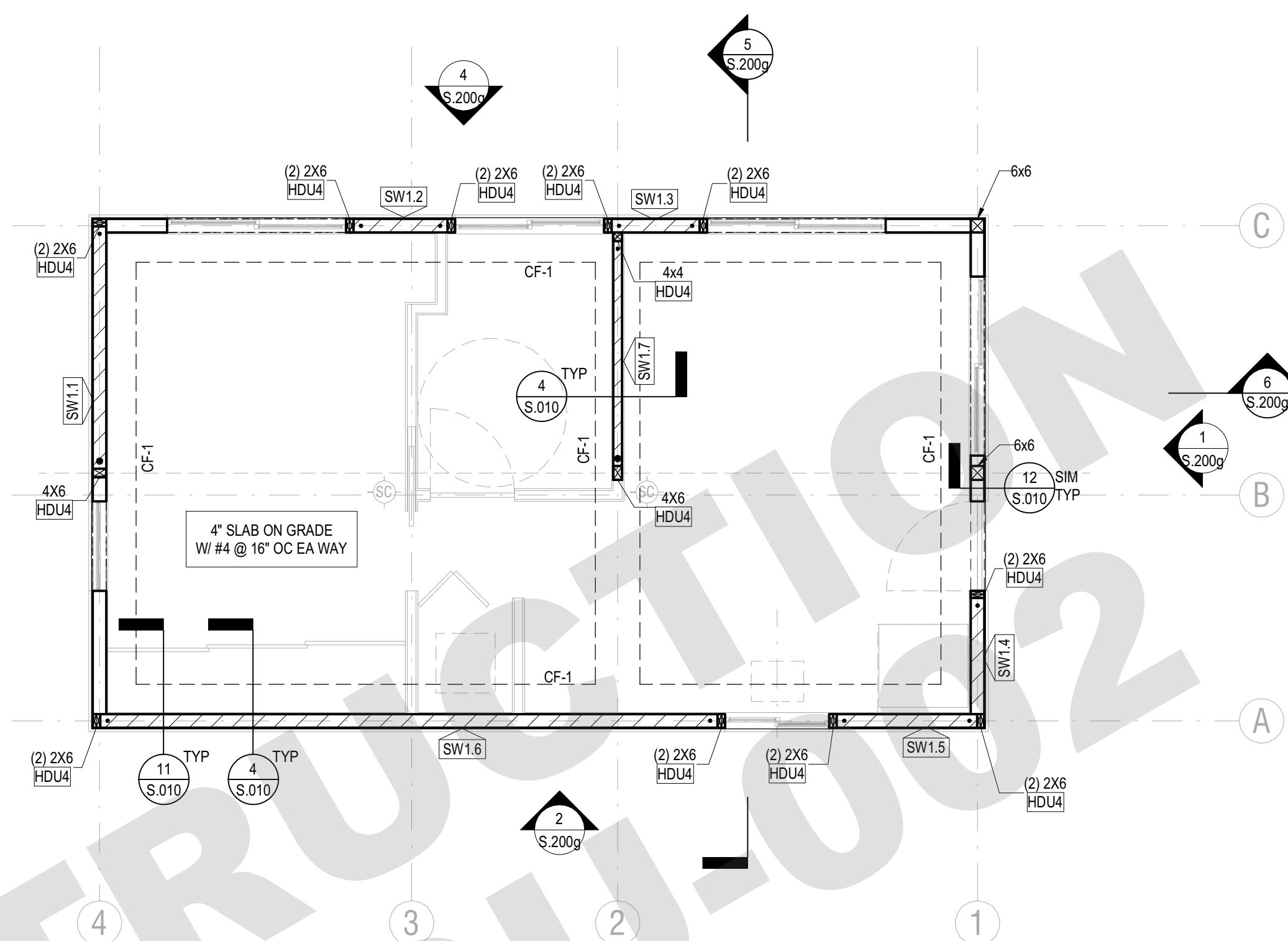
NOUS ENGINEERING, INC.

600 WILSHIRE BOULEVARD, SUITE 760
LOS ANGELES, CALIFORNIA 90017
P. 213.627.6687

MEP ENGINEER-

INNODE7 DESIGN AND ENGINEERING

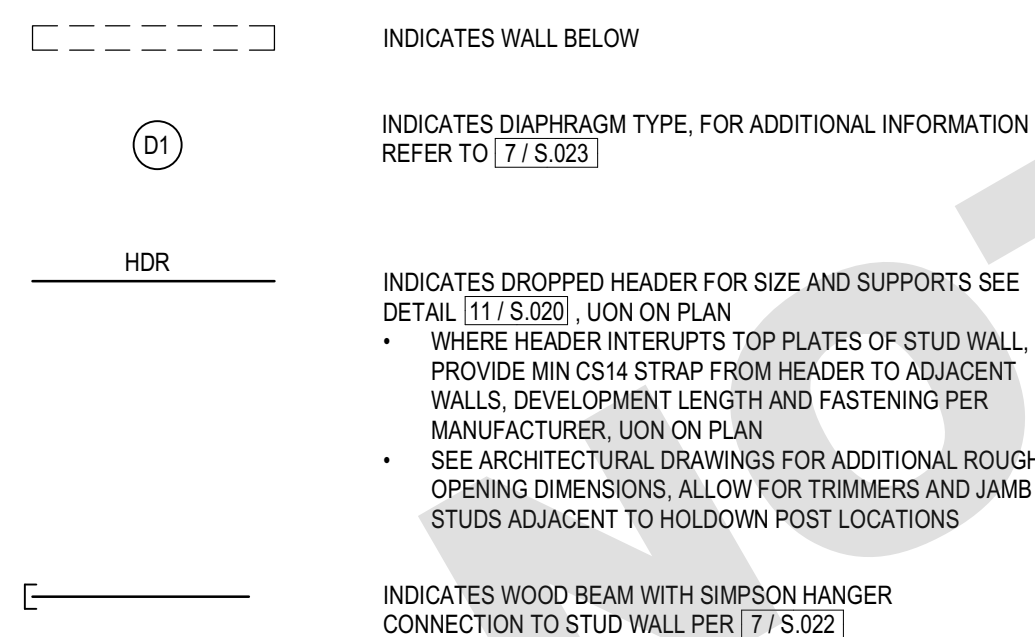
726 FOXBROUGH PLACE
PLEASANTON, CALIFORNIA 94586
P. 424.414.0997



FRAMING PLAN NOTES

1. REFER TO 90 SERIES SHEETS FOR GENERAL NOTES AND TYPICAL DETAILS.
2. DEPRESSIONS, CURBS, AND OPENINGS SHOWN ON THIS PLAN ARE NOT COMPLETE AS TO NUMBER, SIZE, AND LOCATION. FOR COMPLETE INFORMATION, REFER TO DRAWINGS OTHER THAN STRUCTURAL.
3. GENERAL CONTRACTOR SHALL COORDINATE THE LOCATION OF EQUIPMENT SUPPORT BEAMS AND BEAMS AROUND FLOOR OPENINGS WITH ALL PROJECT REQUIREMENTS
4. WHERE DROPPED CEILINGS OCCUR, CONNECT TO ADJACENT STUD WALLS PER DETAIL 13 / S.020 AND 14 / S.020

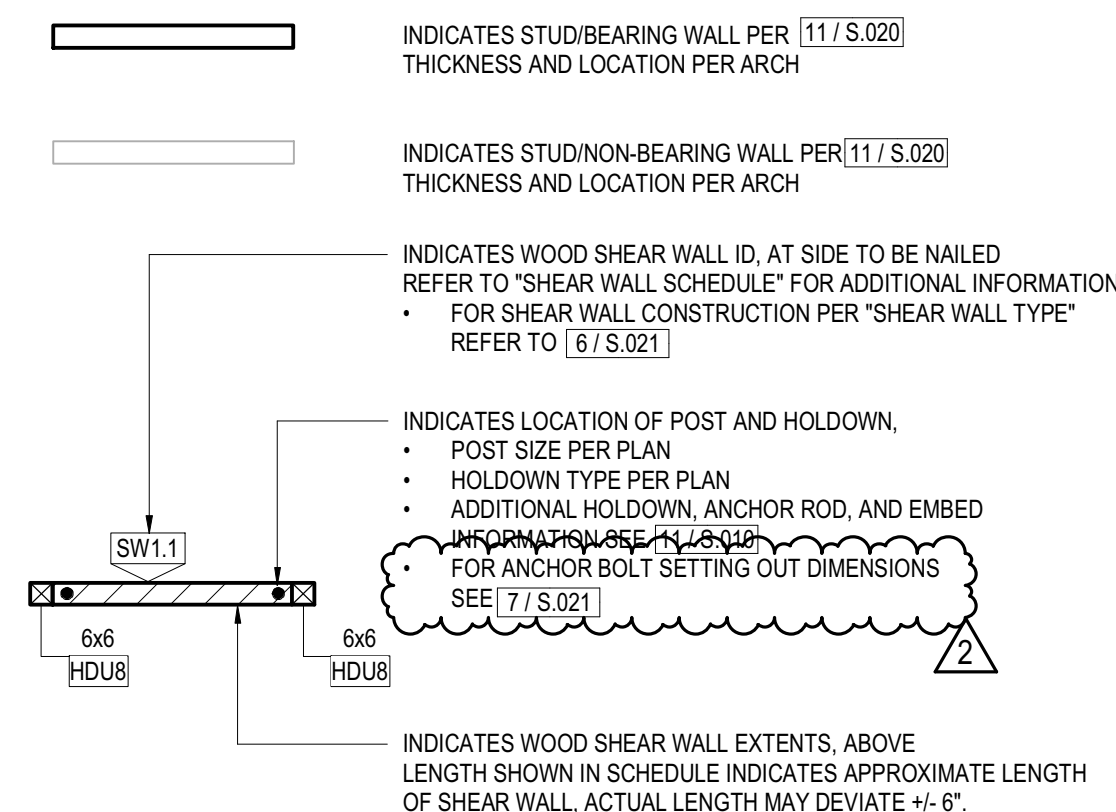
FRAMING PLAN LEGEND



FOUNDATION PLAN NOTES

1. TOP OF FOOTING GRADE BEAM ELEVATION TO BE 1'-0" BELOW TOP OF SLAB OR FINISHED GRADE, UON.
2. REFER TO 300 SERIES SHEETS FOR GENERAL NOTES AND TYPICAL DETAILS.
3. ALL SETTING OUT DIMENSIONS ARE TO BE READ IN CONJUNCTION AND CONFIRMED WITH ARCHITECTURAL DRAWINGS.
4. EXCAVATIONS SHALL BE MADE AS NEAR AS POSSIBLE TO THE NEAT LINES REQUIRED BY THE SIZE AND SHAPE OF THE STRUCTURE. NO MATERIAL IS TO BE EXCAVATED UNNECESSARILY.
5. CURBS AND DEPRESSIONS ARE SHOWN FOR REFERENCE ONLY. SEE ARCH DWGS FOR LOCATIONS, HEIGHT, AND THICKNESS.
6. SEE ARCH DWGS FOR EDGE OF SLAB LOCATIONS.
7. VERIFY LOCATION OF UNDERGROUND UTILITIES BEFORE EXCAVATIONS. NOTIFY ARCHITECT PRIOR TO EXCAVATION IN THE EVENT SUCH UTILITIES ARE ENCOUNTERED.
8. FOR DRAINAGE DETAILS, SUMPS, PITS, DAMP PROOFING, TRENCHES, CURBS, EXTERIOR WALKS, UTILITIES, EQUIPMENT DETAILS, STEPS, ETC., SEE DRAWINGS OTHER THAN STRUCTURAL.
9. SLAB CONTROL JOINT LOCATIONS SHALL BE APPROVED BY THE ARCHITECT PRIOR TO PLACING ANY CONCRETE.
10. PROVIDE A 6" CURB AT EXTERIOR TIMBER WALLS. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS.

FOUNDATION PLAN LEGEND



CONTINUOUS FOOTING SCHEDULE

TYPE MARK	WIDTH, W	DEPTH, D	TOP BARS	BOTTOM BARS	TIES
CF-1	1' - 6"	1'-6"	(2) #5	(2) #5	#4 @ 12" OC

WOOD SHEAR WALL SCHEDULE

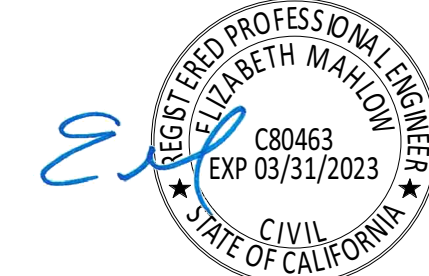
	WALL ID	SHEAR WALL TYPE	LENGTH	WIDTH
	SW1.1	A	8'-6"	5 1/2"
	SW1.2	B	3'-6"	5 1/2"
	SW1.3	B	3'-6"	5 1/2"
	SW1.4	A	4'-0"	5 1/2"
	SW1.5	A	5'-0"	5 1/2"
	SW1.6	A	21'-0"	5 1/2"
	SW1.7	A	8'-6"	3 1/2"

REVISION:	DATE:	COMMENT:
-----------	-------	----------

2 REVISION #2 06.03.22 PLAN CHECK CORRECTIONS

1 REVISION #1 04.01.22 PLAN CHECK CORRECTIONS

SEAI



Project No. 2104

ADU PROGRAM

CITY OF FRESNO
CALIFORNIA

DRAWING TITLE

ADU 02

GABLE (GABLE-STUCCO)
FOUNDATION AND FRAMING
PLANS

DATE: APRIL 1, 2022

SCALE: AS NOTED

DRAWN BY:

© Aaron Neubert Architects, INC. 2021

S.100g

LOTTED ON: 6/3/2022 11:16:19 AM
 autodesk Docs://21388 Fresno ADU's_R22/NE_21388 Fresno ADU.02_R22.m1

2 GABLE (GABLE-STUCCO) ROOF FRAMING PLAN

$$1/4'' = 1'-0''$$

1 GABLE (GABLE-STUCCO) FOUNDATION PLAN

$$\frac{1}{4}'' = 1'-0''$$



ONNE

CITY OF FRESNO
PLANNING AND DEVELOPMENT DEPARTMENT
2600 FRESNO STREET, 3RD FLOOR
FRESNO, CA 93721

ARCHITECT

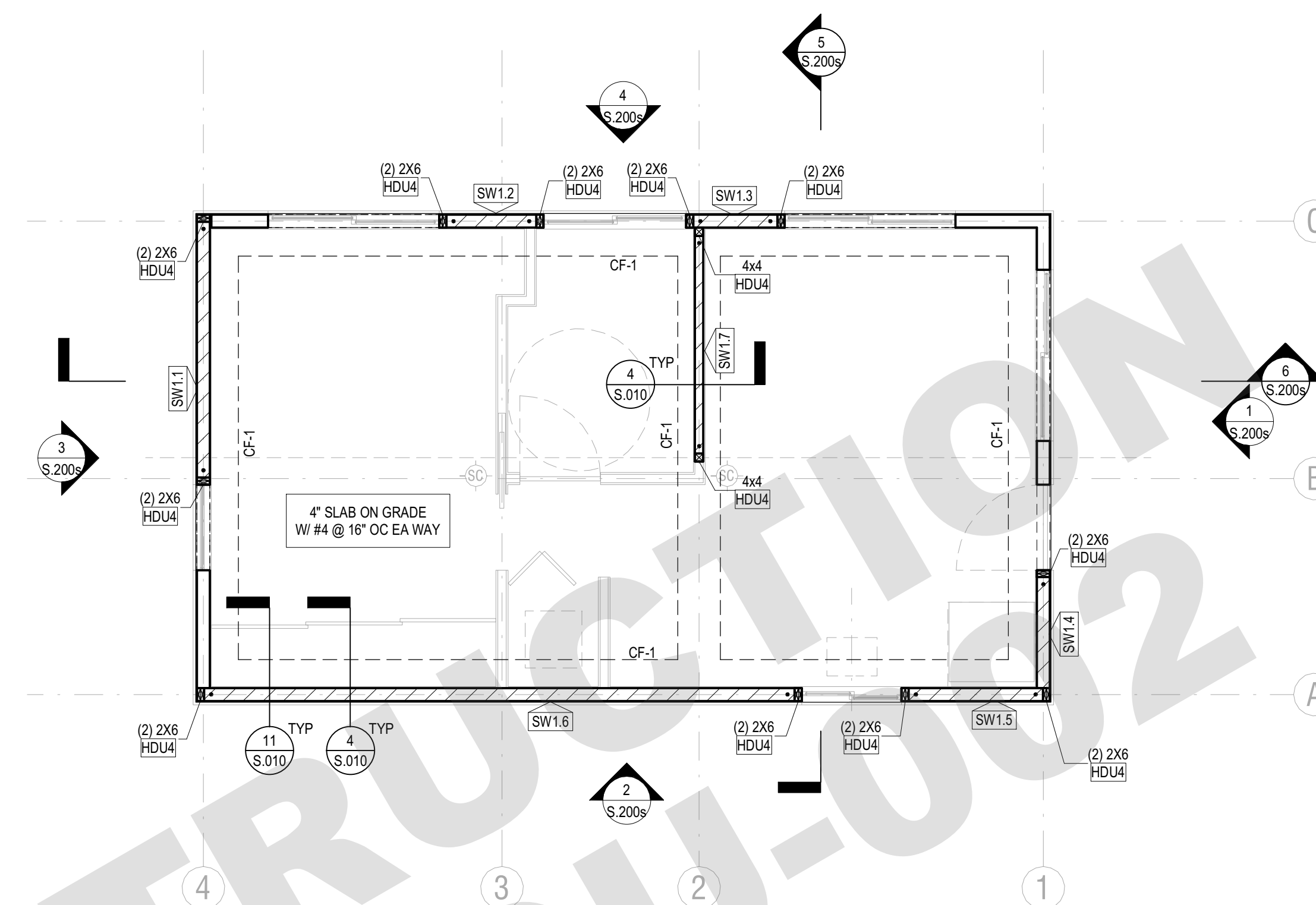
AARON NEUBERT ARCHITECTS, INC.
2814 ROWENA AVENUE, SUITE ONE
LOS ANGELES, CALIFORNIA 90039
P. 323.953.4700 F. 323.953.4900
AARON NEUBERT C.A.# C-29005

STRUCTURAL ENGINEER

NOUS ENGINEERING, INC.
600 WILSHIRE BOULEVARD, SUITE 760
LOS ANGELES, CALIFORNIA 90017
P. 213.627.6687

MEP ENGINEER:

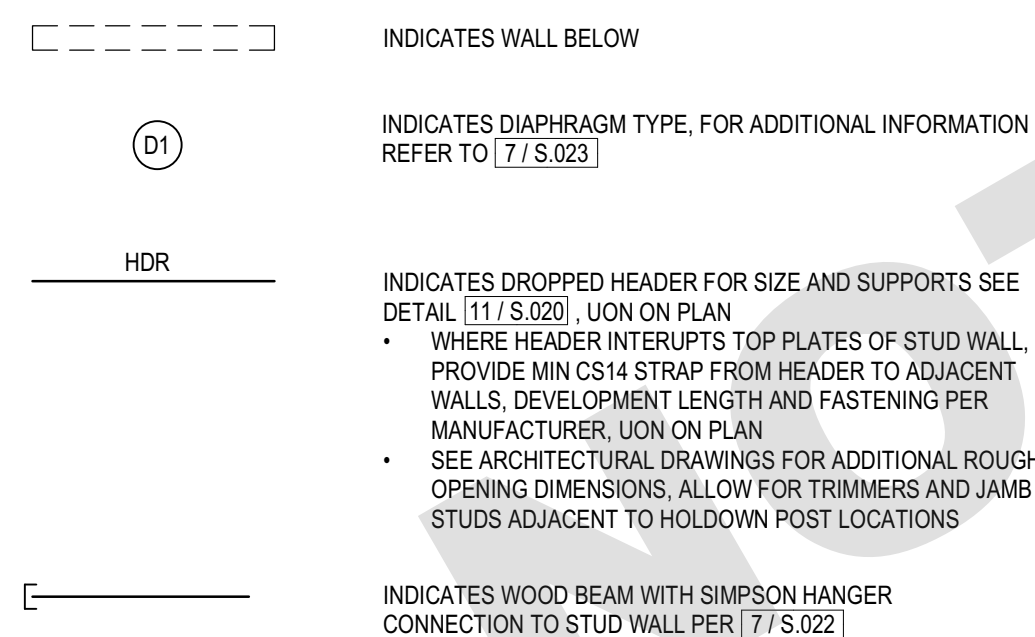
INNODEZ DESIGN AND ENGINEERING
726 FOXBROUGH PLACE
PLEASANTON, CALIFORNIA 94586
P. 424.414.0997



FRAMING PLAN NOTES

1. REFER TO 90 SERIES SHEETS FOR GENERAL NOTES AND TYPICAL DETAILS.
2. DEPRESSIONS, CURBS, AND OPENINGS SHOWN ON THIS PLAN ARE NOT COMPLETE AS TO NUMBER, SIZE, AND LOCATION. FOR COMPLETE INFORMATION, REFER TO DRAWINGS OTHER THAN STRUCTURAL.
3. GENERAL CONTRACTOR SHALL COORDINATE THE LOCATION OF EQUIPMENT SUPPORT BEAMS AND BEAMS AROUND FLOOR OPENINGS WITH ALL PROJECT REQUIREMENTS
4. WHERE DROPPED CEILINGS OCCUR, CONNECT TO ADJACENT STUD WALLS PER DETAIL 13 / S.020 AND 14 / S.020

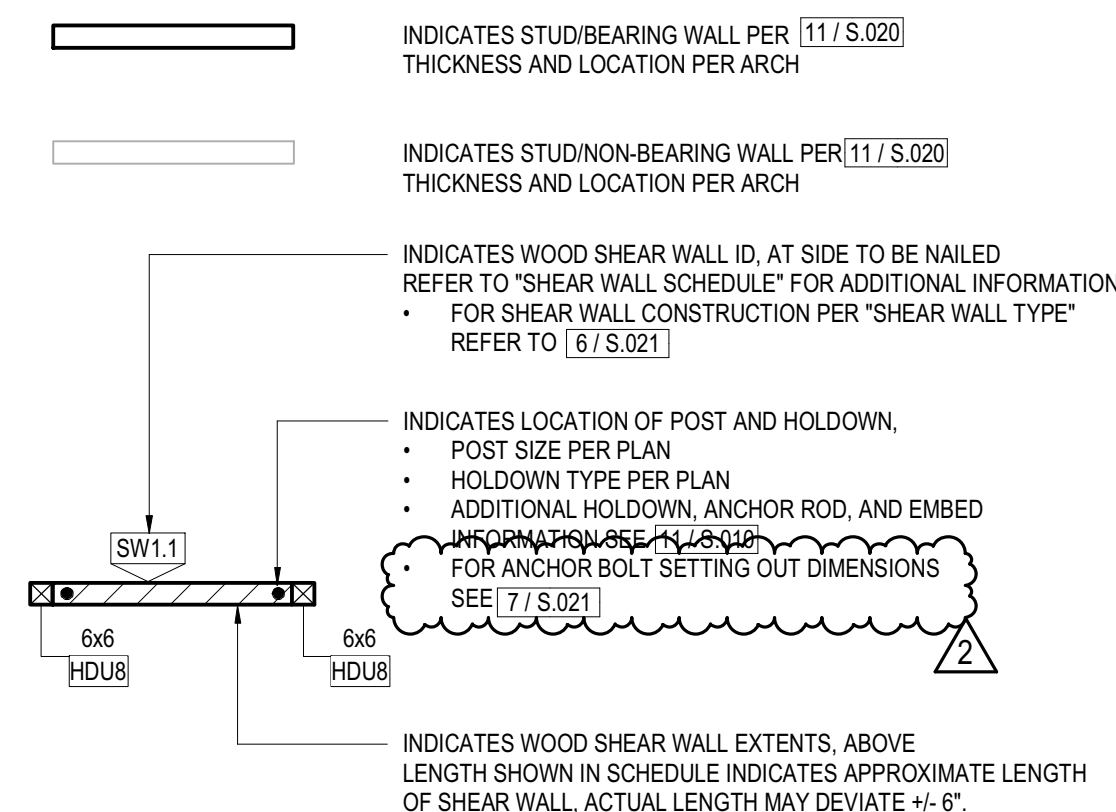
FRAMING PLAN LEGEND



FOUNDATION PLAN NOTES

1. TOP OF FOOTING GRADE BEAM ELEVATION TO BE 1'-0" BELOW TOP OF SLAB OR FINISHED GRADE, UON.
2. REFER TO 300 SERIES SHEETS FOR GENERAL NOTES AND TYPICAL DETAILS.
3. ALL SETTING OUT DIMENSIONS ARE TO BE READ IN CONJUNCTION AND CONFIRMED WITH ARCHITECTURAL DRAWINGS.
4. EXCAVATIONS SHALL BE MADE AS NEAR AS POSSIBLE TO THE NEAT LINES REQUIRED BY THE SIZE AND SHAPE OF THE STRUCTURE. NO MATERIAL IS TO BE EXCAVATED UNNECESSARILY.
5. CURBS AND DEPRESSIONS ARE SHOWN FOR REFERENCE ONLY. SEE ARCH DWGS FOR LOCATIONS, HEIGHT, AND THICKNESS.
6. SEE ARCH DWGS FOR EDGE OF SLAB LOCATIONS.
7. VERIFY LOCATION OF UNDERGROUND UTILITIES BEFORE EXCAVATIONS. NOTIFY ARCHITECT PRIOR TO EXCAVATION IN THE EVENT SUCH UTILITIES ARE ENCOUNTERED.
8. FOR DRAINAGE DETAILS, SUMPS, PITS, DAMP PROOFING, TRENCHES, CURBS, EXTERIOR WALKS, UTILITIES, EQUIPMENT DETAILS, STEPS, ETC., SEE DRAWINGS OTHER THAN STRUCTURAL.
9. SLAB CONTROL JOINT LOCATIONS SHALL BE APPROVED BY THE ARCHITECT PRIOR TO PLACING ANY CONCRETE.
10. PROVIDE A 6" CURB AT EXTERIOR TIMBER WALLS. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS.

FOUNDATION PLAN LEGEND



CONTINUOUS FOOTING SCHEDULE

TYPE MARK	WIDTH, W	DEPTH, D	TOP BARS	BOTTOM BARS	TIES
CF-1	1' - 6"	1'-6"	(2) #5	(2) #5	#4 @ 12" OC

WOOD SHEAR WALL SCHEDULE

	WALL ID	SHEAR WALL TYPE	LENGTH	WIDTH
	SW1.1	A	9'-6"	5 1/2"
	SW1.2	B	3'-6"	5 1/2"
	SW1.3	B	3'-6"	5 1/2"
	SW1.4	A	4'-0"	5 1/2"
	SW1.5	A	5'-0"	5 1/2"
	SW1.6	A	21'-0"	5 1/2"
	SW1.7	A	8'-0"	3 1/2"

REVISION:	DATE:	COMMENT:
-----------	-------	----------

2 REVISION #2 06.03.22 PLAN CHECK CORRECTIONS

1 REVISION #1 04.01.22 PLAN CHECK CORRECTIONS

SEAI ·



Project No. 2104

ADU PROGRAM

CITY OF FRESNO
CALIFORNIA

DRAWING TITLE

ADU 02

CONTEMPORARY FOUNDATION AND FRAMING PLANS

DATE: APRIL 1, 2022

SCALE: AS NOTED

DRAWN BY:

© Aaron Neubert Architects, INC. 202

S.100s

CONTEMPORARY ROOF FRAMING PLAN

② $\frac{1}{4}" = 1'-0"$

CONTEMPORARY FOUNDATION PLAN

① $\frac{1}{4}" = 1'-0"$



AARON NEUBERT ARCHITECTS

ADU PROGRAM

OWNER:

CITY OF FRESNO
PLANNING AND DEVELOPMENT DEPARTMENT
2000 FRESNO STREET, 3RD FLOOR
FRESNO, CA 93721

ARCHITECT:

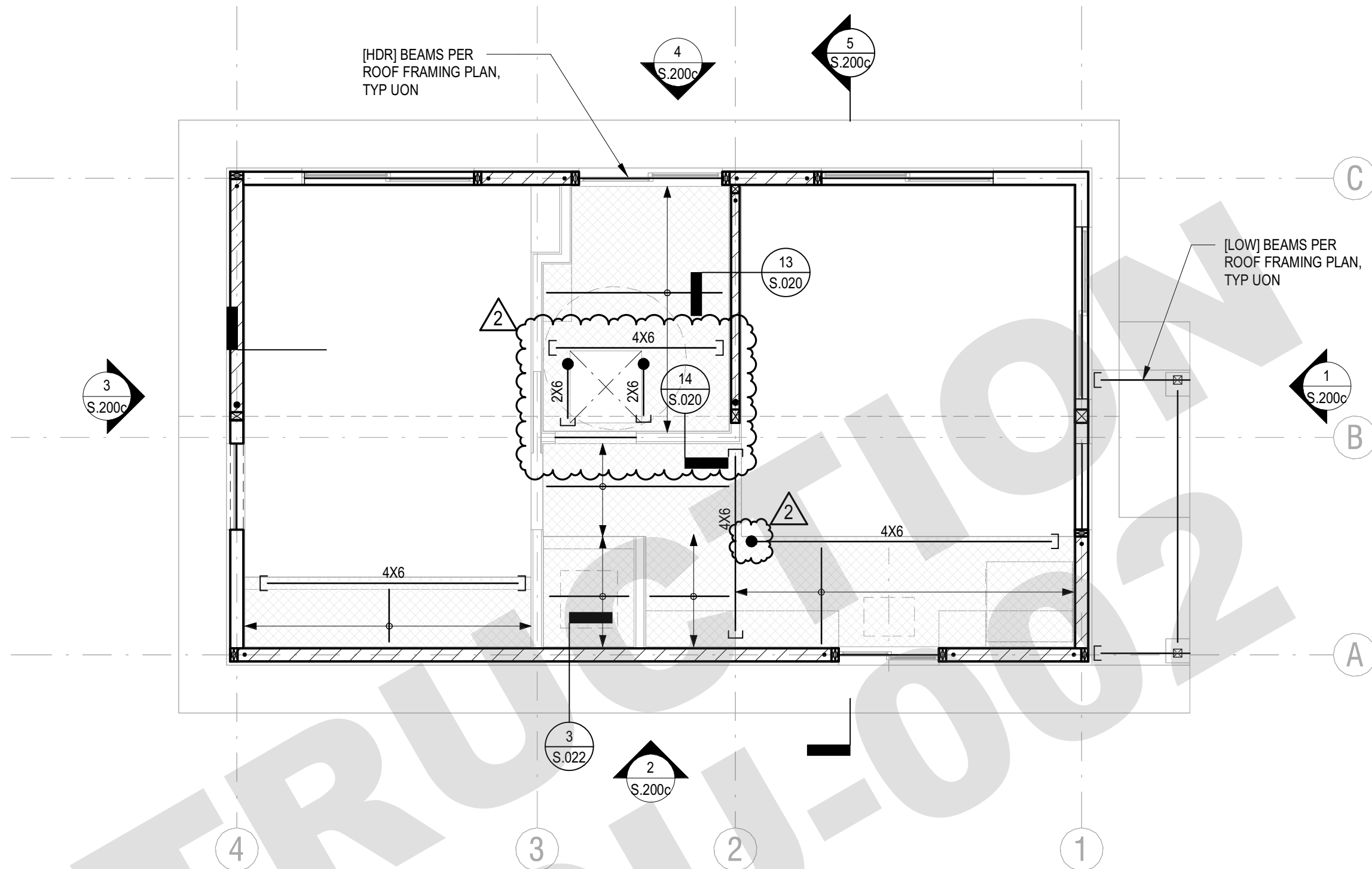
AARON NEUBERT ARCHITECTS, INC.
2814 ROWENA AVENUE, SUITE ONE
LOS ANGELES, CALIFORNIA 90009
P. 323.953.4700 F. 323.953.4900
AARON NEUBERT CA# C-29025

STRUCTURAL ENGINEER:

NOUS ENGINEERING, INC.
600 WALSHIRE BOULEVARD, SUITE 700
LOS ANGELES, CALIFORNIA 90017
P. 213.827.6697

MEP ENGINEER:

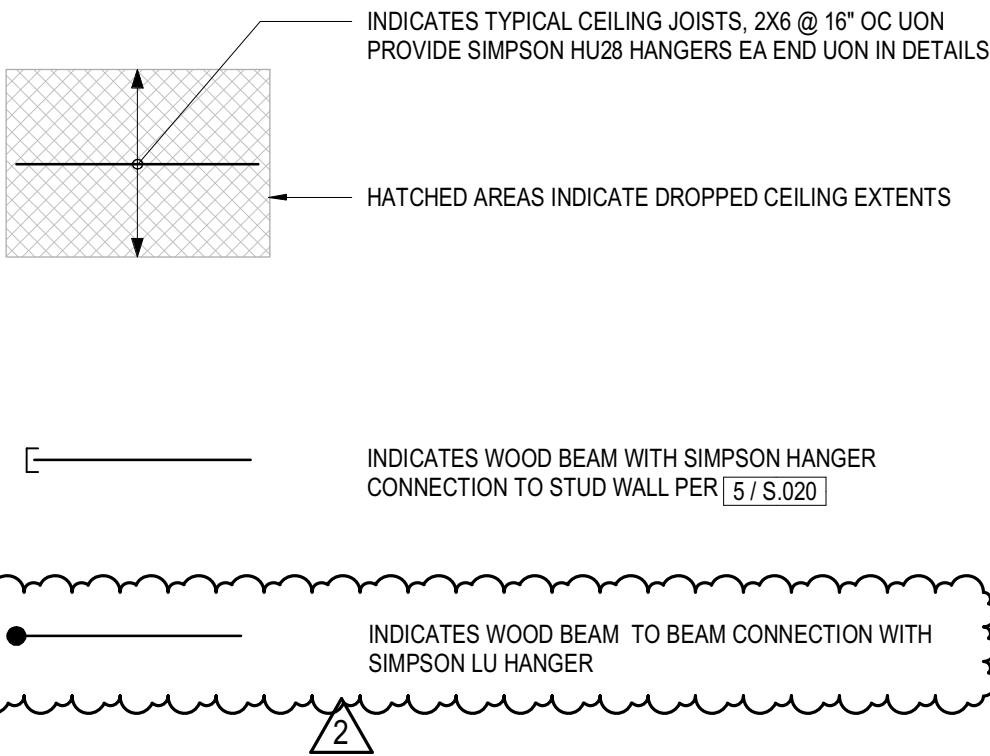
INNODÉZ DESIGN AND ENGINEERING
726 FORBROUGH PLACE
PLEASANTON, CALIFORNIA 94566
P. 424.414.0907



FRAMING PLAN NOTES

1. REFER TO S0 SERIES SHEETS FOR GENERAL NOTES AND TYPICAL DETAILS.
2. DEPRESSIONS, CURBS, AND OPENINGS SHOWN ON THIS PLAN ARE NOT COMPLETE AS TO NUMBER, SIZE, AND LOCATION. FOR COMPLETE INFORMATION, REFER TO DRAWINGS OTHER THAN STRUCTURAL.
3. GENERAL CONTRACTOR SHALL COORDINATE THE LOCATION OF EQUIPMENT SUPPORT BEAMS AND BEAMS AROUND FLOOR OPENINGS WITH ALL PROJECT REQUIREMENTS.

FRAMING PLAN LEGEND



1 CRAFTSMAN CEILING FRAMING PLAN

1/4" = 1'-0"

REVISION:

DATE:

COMMENT:

2

REVISION #2 06.03.22 PLAN CHECK CORRECTIONS

1

REVISION #1 04.01.22 PLAN CHECK CORRECTIONS

SEAL:



Project No. 2104

ADU PROGRAM

CITY OF FRESNO
CALIFORNIA

DRAWING TITLE:

CRAFTSMAN CEILING FRAMING
PLAN

DATE: APRIL 1, 2022

SCALE: AS NOTED

DRAWN BY:

S.110c

© Aaron Neubert Architects, INC. 2021



ONNE

CITY OF FRESNO
PLANNING AND DEVELOPMENT DEPARTMENT
2600 FRESNO STREET, 3RD FLOOR
FRESNO, CA 93721

ARCHITECT

AARON NEUBERT ARCHITECTS, INC.

2814 ROWENA AVENUE, SUITE 01
LOS ANGELES, CALIFORNIA 90035
P. 323.953.4700 F. 323.953.4900
AARON NEUBERT C.A.# C-29005

AARON NEUBERT C.A.# C-2902

STRUCTURAL ENGINEER

NOUS ENGINEERING, INC.

600 WILSHIRE BOULEVARD, SUITE 700
LOS ANGELES, CALIFORNIA 90017
P. 213.627.6687

MEP ENGINEER

INNODEZ DESIGN AND ENGINEERING

726 FOXBROUGH PLACE
PLEASANTON, CALIFORNIA 94586
P. 424.414.0997



1. REFER TO S0 SERIES SHEETS FOR GENERAL NOTES AND TYPICAL DETAILS.
2. DEPRESSIONS, CURBS, AND OPENINGS SHOWN ON THIS PLAN ARE NOT COMPLETE AS TO NUMBER, SIZE, AND LOCATION. FOR COMPLETE INFORMATION, REFER TO DRAWINGS OTHER THAN STRUCTURAL.
3. GENERAL CONTRACTOR SHALL COORDINATE THE LOCATION OF EQUIPMENT SUPPORT BEAMS AND BEAMS AROUND FLOOR OPENINGS WITH ALL PROJECT REQUIREMENTS.

FRAMING PLAN LEGEND



- 2 REVISION #2 06 02 02 PLAN CHECK CORRECTIONS

- 1 REVISION #1 04.01.22 PLAN CHECK CORRECTIONS

SEAI ·



Project No. 2104

CITY OF FRESNO
CALIFORNIA

DRAWING TITLE:

GABLE (GABLE-STUCCO) CEILING FRAMING PLAN

DATE: APRIL 1, 2022

SCALE: AS NOTED

DRAWN BY:

S.110g

© Aaron Neubert Architects, INC. 2021

PLOTTED ON: 6/3/2022 11:16:28 AM
Autodesk Docs//21388 Fresno ADUs_R22/NE_21388 Fresno ADU 02_R22.rvt



ONNE

CITY OF FRESNO
PLANNING AND DEVELOPMENT DEPARTMENT
2600 FRESNO STREET, 3RD FLOOR
FRESNO, CA 93721

ARCHITECT

AARON NEUBERT ARCHITECTS, INC.

2814 ROWENA AVENUE, SUITE ON
LOS ANGELES, CALIFORNIA 90035
P. 323.953.4700 F. 323.953.4900
AARON NEUBERT CA# C-29005

AARON NEUBERT CA# C-2903

STRUCTURAL ENGINEER

NOUS ENGINEERING, INC.

600 WILSHIRE BOULEVARD, SUITE 700
LOS ANGELES, CALIFORNIA 90017
P. 213.627.6687

MEP ENGINEER:

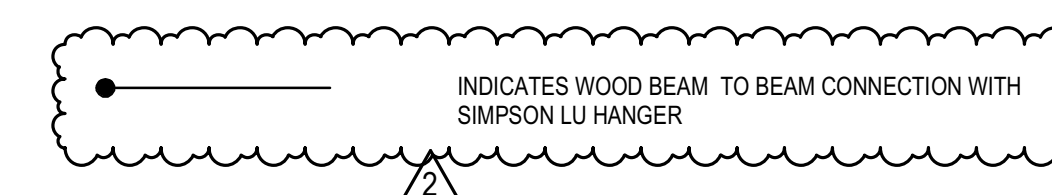
INNODEZ DESIGN AND ENGINEERING

726 FOXBROUGH PLACE
PLEASANTON, CALIFORNIA 94586
P. 424.414.0997



1. REFER TO S0 SERIES SHEETS FOR GENERAL NOTES AND TYPICAL DETAILS.
2. DEPRESSIONS, CURBS, AND OPENINGS SHOWN ON THIS PLAN ARE NOT COMPLETE AS TO NUMBER, SIZE, AND LOCATION. FOR COMPLETE INFORMATION, REFER TO DRAWINGS OTHER THAN STRUCTURAL.
3. GENERAL CONTRACTOR SHALL COORDINATE THE LOCATION OF EQUIPMENT SUPPORT BEAMS AND BEAMS AROUND FLOOR OPENINGS WITH ALL PROJECT REQUIREMENTS.

FRAMING PLAN LEGEND



REVISION:	DATE:	COMMENT:
-----------	-------	----------

2 REVISION #2 06.03.22 PLAN CHECK CORRECTIONS

1 REVISION #1 04.01.22 PLAN CHECK CORRECTIONS

SEAL:



Project No. 2104

ADU PROGRAM

CITY OF FRESNO
CALIFORNIA

DRAWING TITLE

CONTEMPORARY CEILING FRAMING PLAN

DATE: APRIL 1, 2022

SCALE: AS NOTED

DRAWN BY:

© Aaron Neubert Architects, INC. 202

S.110s

CONTEMPORARY CEILING FRAMING PLAN

① $\frac{1}{4}'' = 1'-0''$



AARON NEUBERT ARCHITECTS

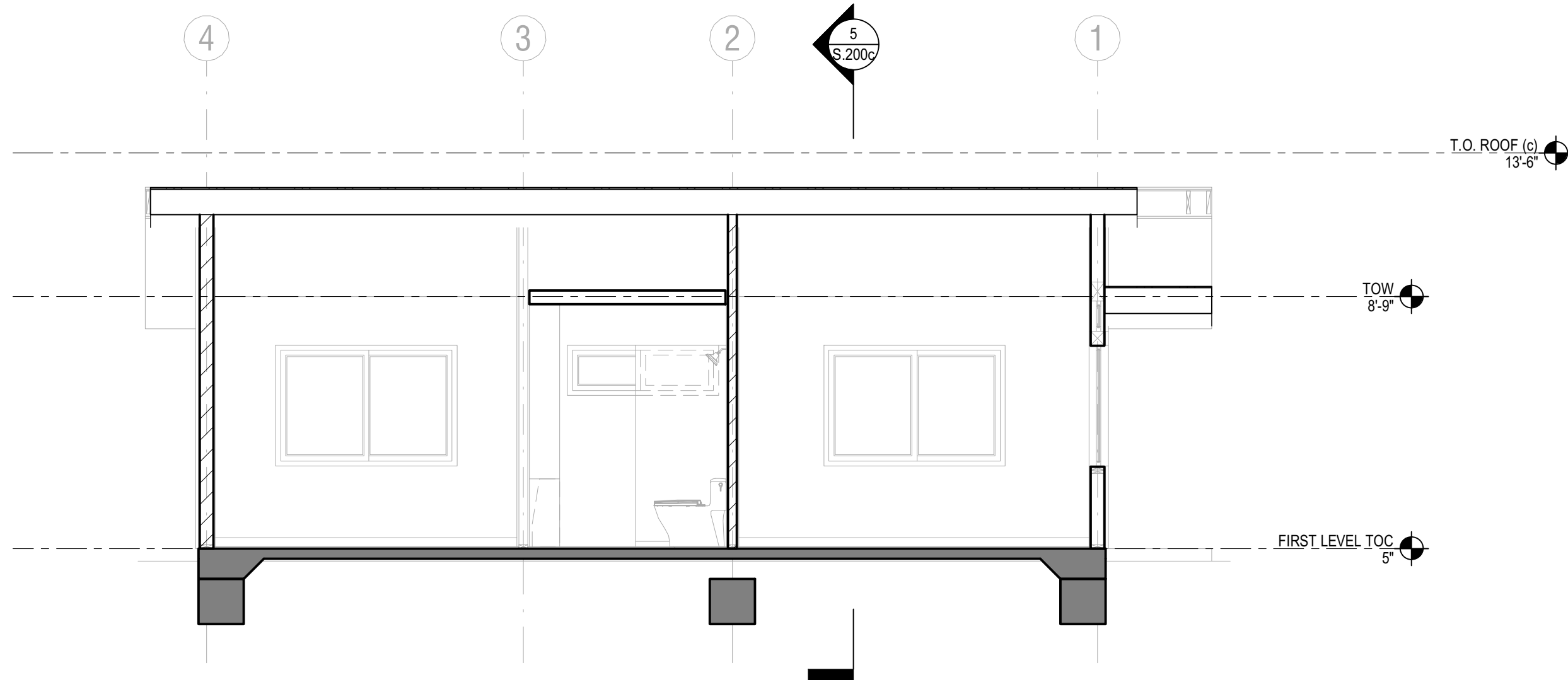
ADU PROGRAM

OWNER:
CITY OF FRESNO
PLANNING AND DEVELOPMENT DEPARTMENT
2000 FRESNO STREET, 3RD FLOOR
FRESNO, CA 93721

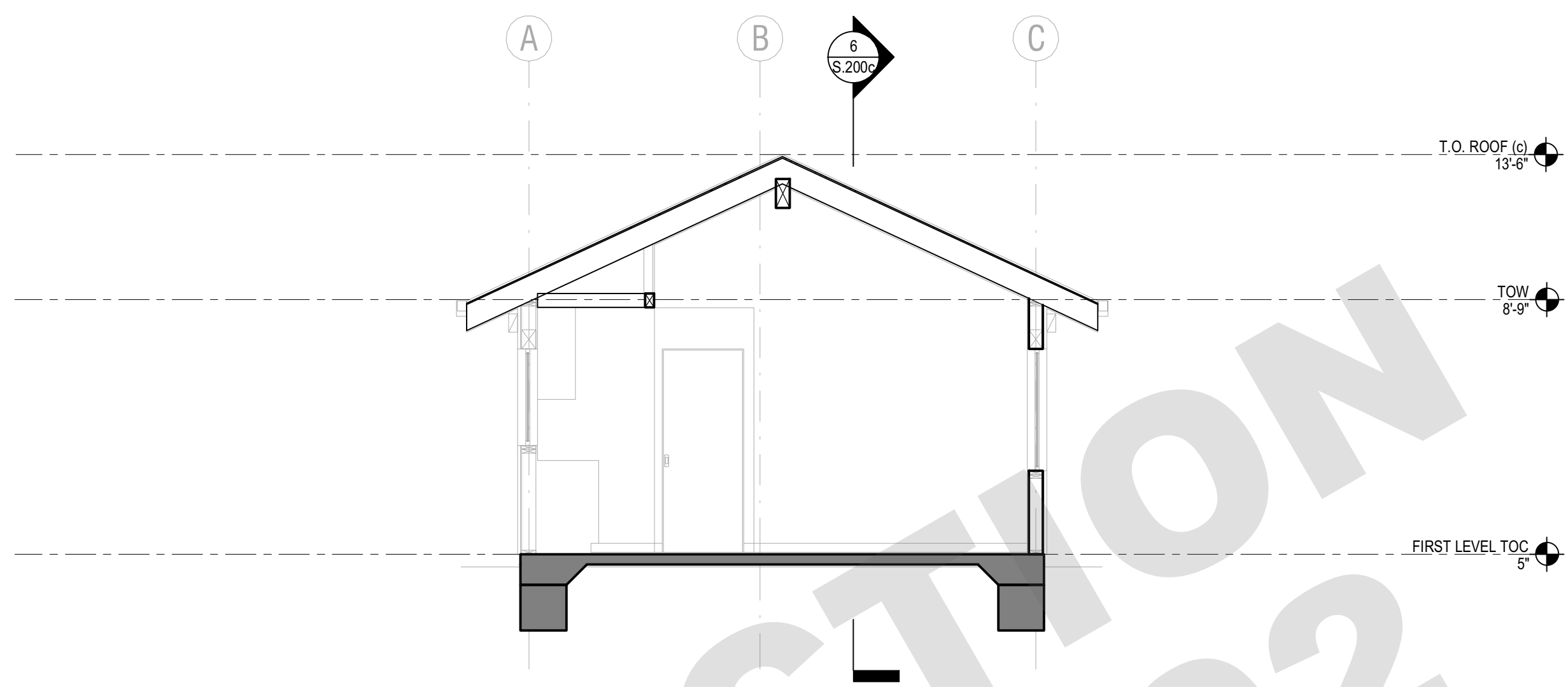
ARCHITECT:
AARON NEUBERT ARCHITECTS, INC.
2814 BROWNE AVENUE, SUITE ONE
LOS ANGELES, CALIFORNIA 90009
P. 323.953.4700 F. 323.953.4900
AARON NEUBERT CA# C-29025

STRUCTURAL ENGINEER:
NOUS ENGINEERING, INC.
600 WILSHIRE BOULEVARD, SUITE 700
LOS ANGELES, CALIFORNIA 90017
P. 213.827.6687

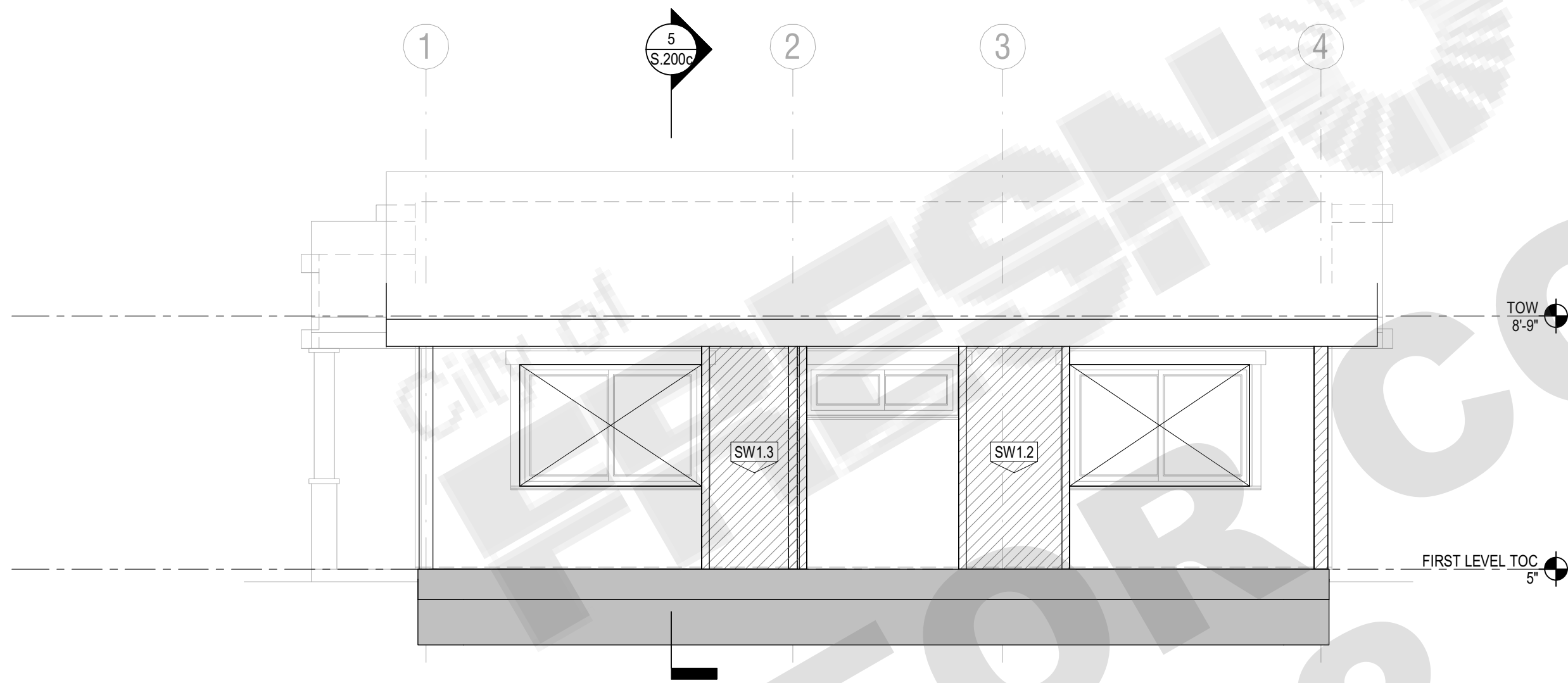
MEP ENGINEER:
INNOCENZ DESIGN AND ENGINEERING
725 FORBROUGH PLACE
PLEASANTON, CALIFORNIA 94566
P. 424.414.0907



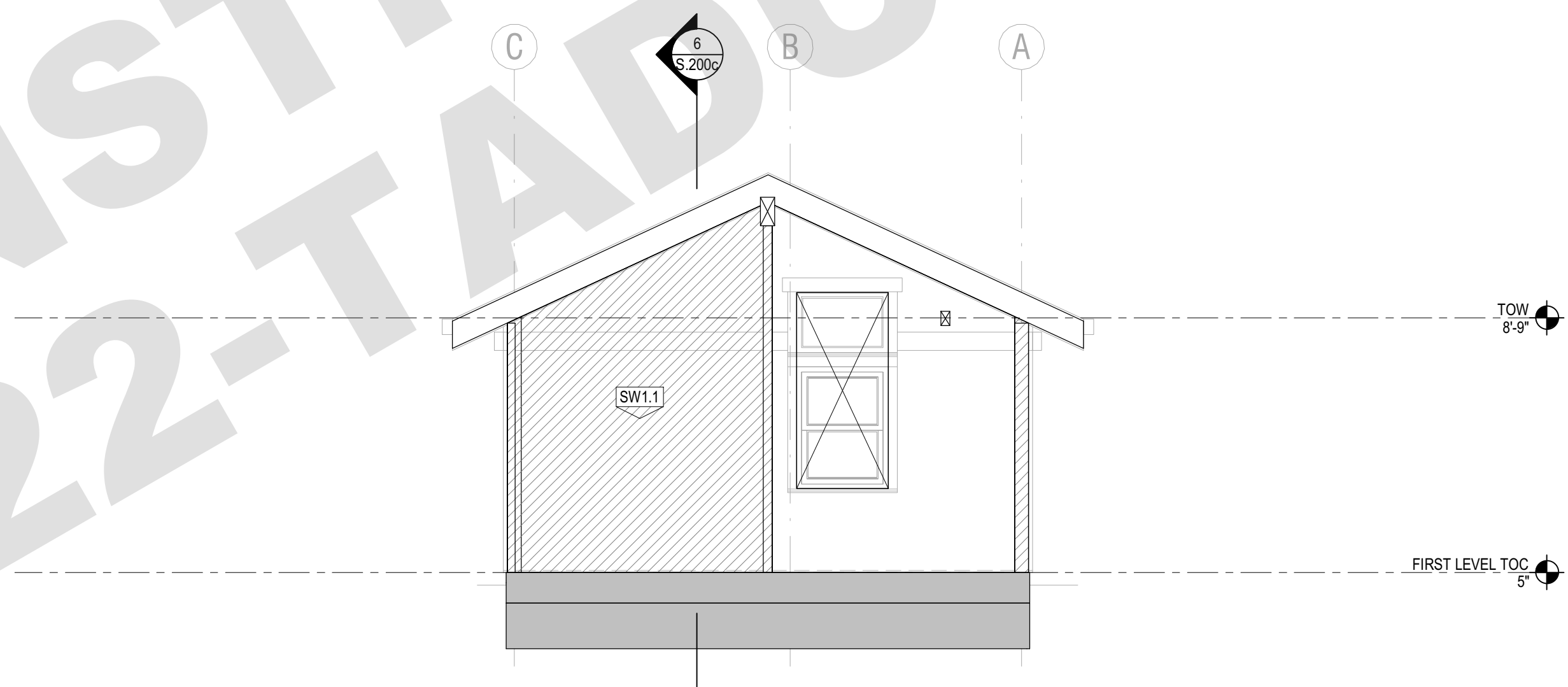
6(c) E-W SECTION
1/4" = 1'-0"



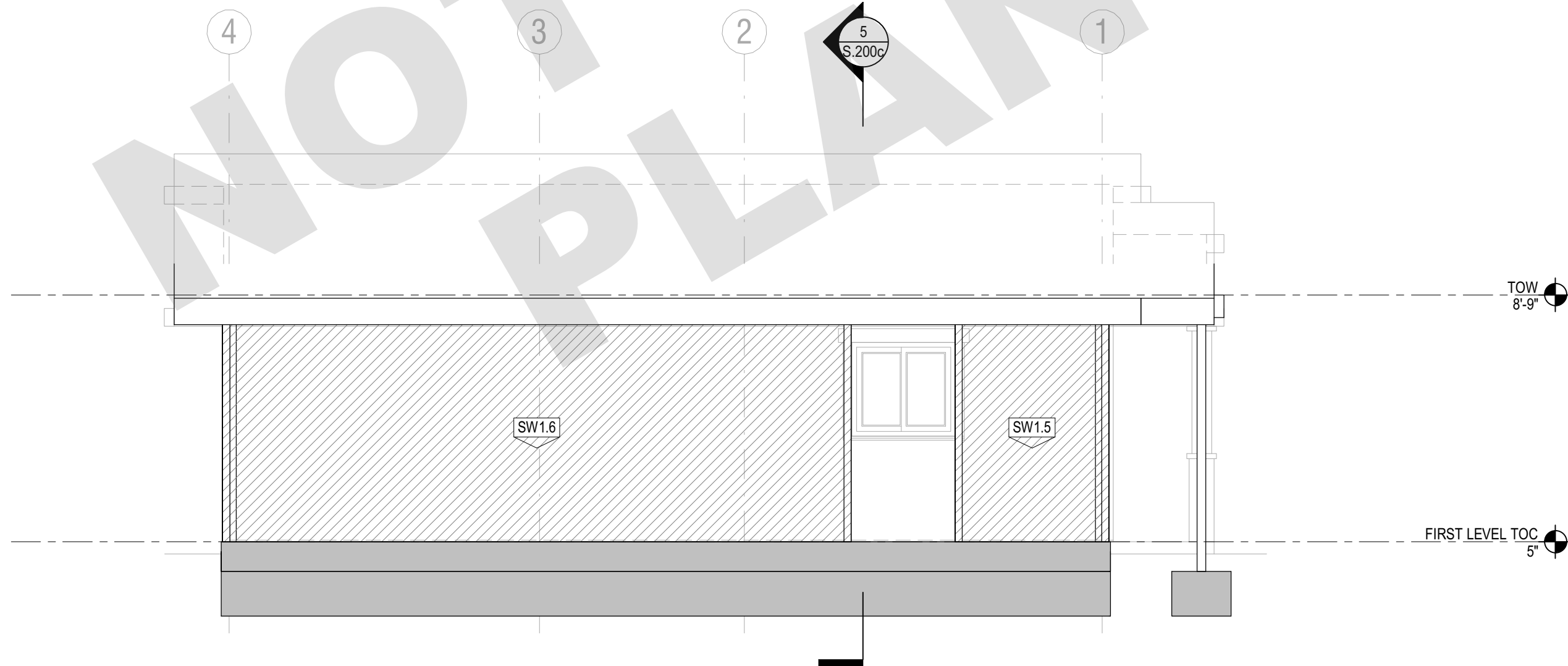
5(c) N-S SECTION
1/4" = 1'-0"



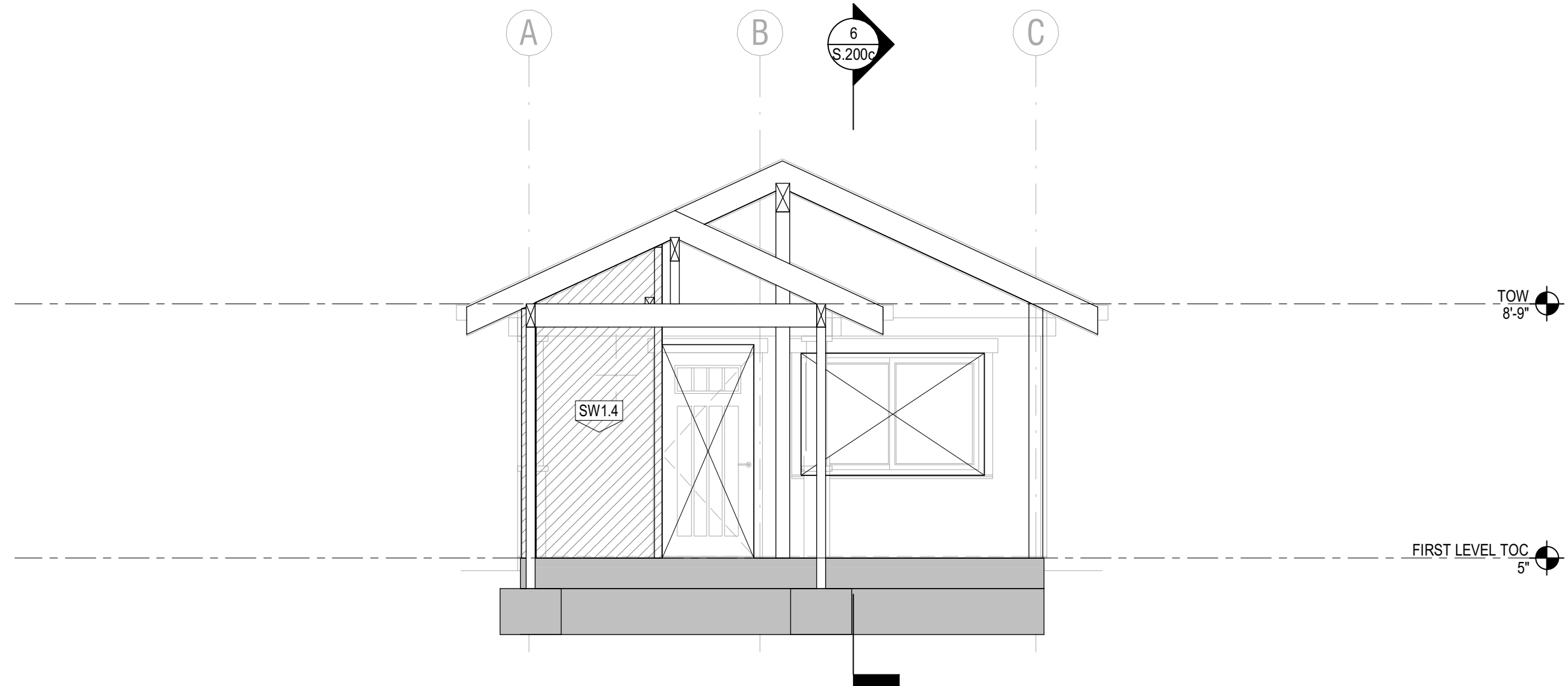
4(c) NORTH
1/4" = 1'-0"



3(c) WEST
1/4" = 1'-0"



2(c) SOUTH
1/4" = 1'-0"



1(c) EAST
1/4" = 1'-0"

REVISION:	DATE:	COMMENT:
2	REVISION #2 06.03.22	PLAN CHECK CORRECTIONS
1	REVISION #1 04.01.22	PLAN CHECK CORRECTIONS

SEAL:

REGISTERED PROFESSIONAL ENGINEER
ELIZABETH MAHONY
C80463
EXP 03/31/2023
CIVIL
STATE OF CALIFORNIA

Project No. 2104
ADU PROGRAM
CITY OF FRESNO
CALIFORNIA

DRAWING TITLE:
ADU 02
CRAFTSMAN ELEVATIONS
SECTIONS

DATE: APRIL 1, 2022
SCALE: AS NOTED
DRAWN BY:



AARON NEUBERT ARCHITECTS

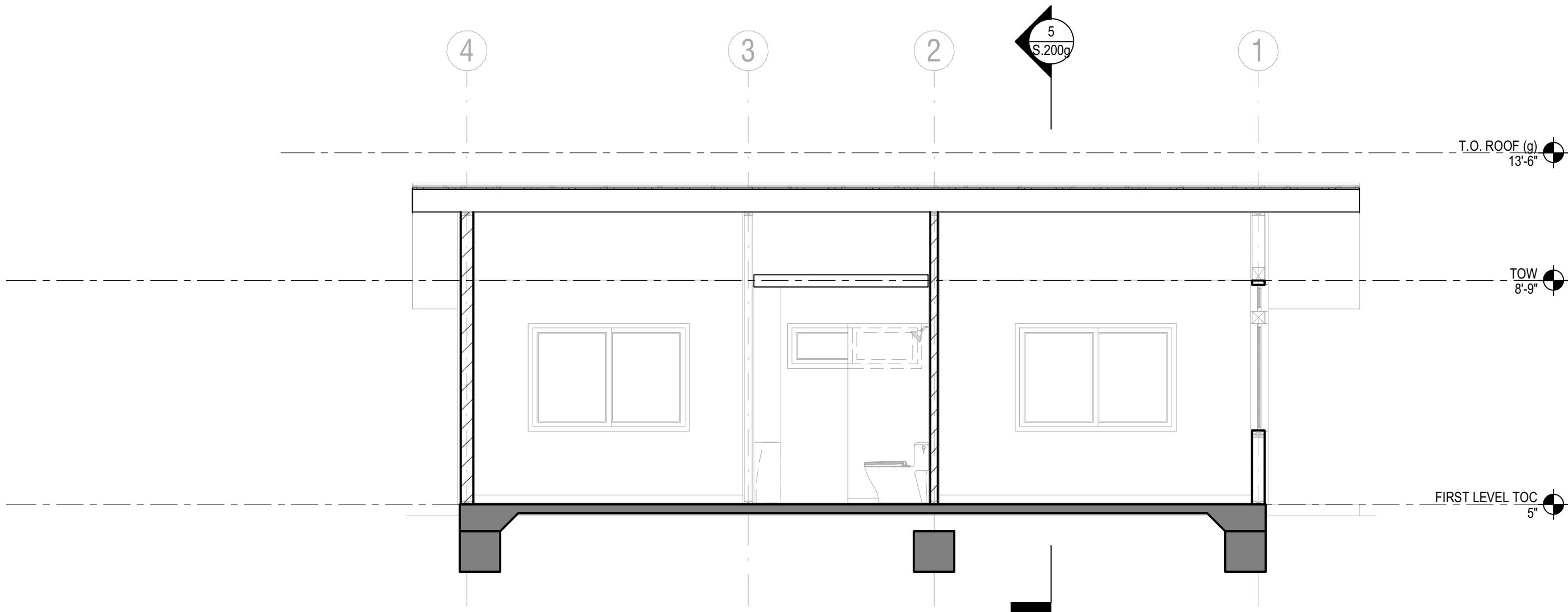
ADU PROGRAM

OWNER:
CITY OF FRESNO
PLANNING AND DEVELOPMENT DEPARTMENT
2000 FRESNO STREET, 3RD FLOOR
FRESNO, CA 93721

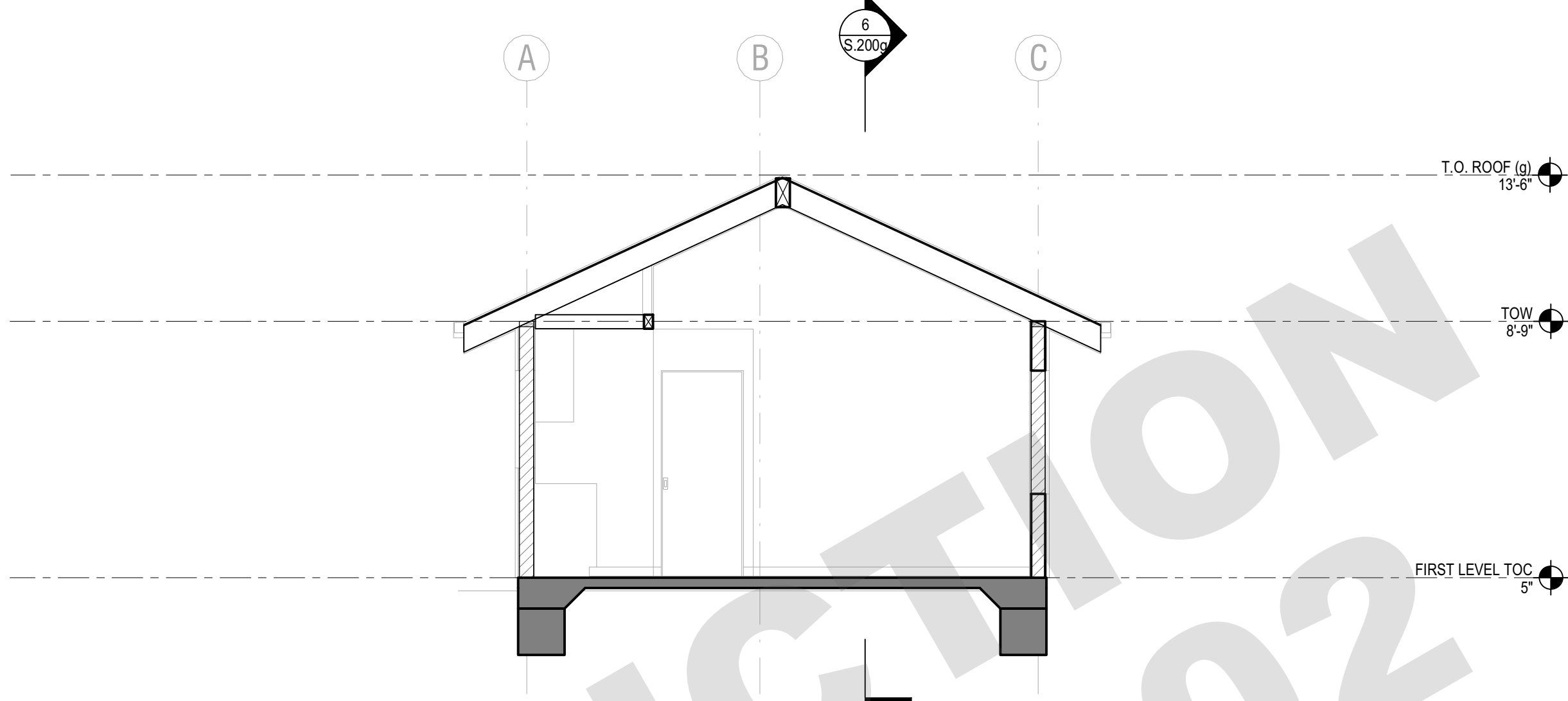
ARCHITECT:
AARON NEUBERT ARCHITECTS, INC.
2814 ROWENA AVENUE, SUITE ONE
LOS ANGELES, CALIFORNIA 90009
P. 323.953.4700 F. 323.953.4900
AARON NEUBERT CA# C-29025

STRUCTURAL ENGINEER:
NOUS ENGINEERING, INC.
600 WILSHIRE BOULEVARD, SUITE 700
LOS ANGELES, CALIFORNIA 90017
P. 213.627.6607

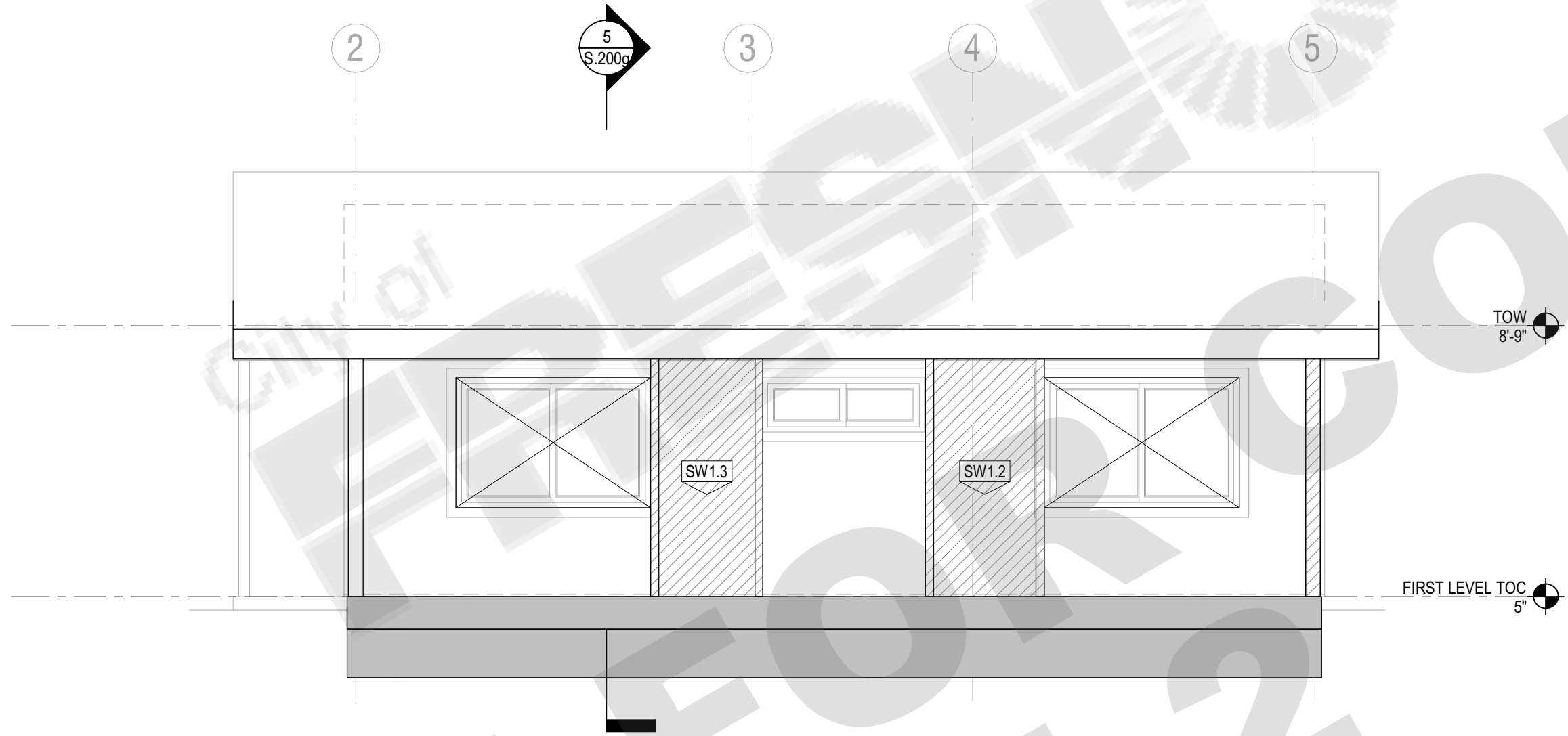
MEP ENGINEER:
INNOCENZ DESIGN AND ENGINEERING
726 FORBROUGH PLACE
PLEASANTON, CALIFORNIA 94566
P. 424.414.0907



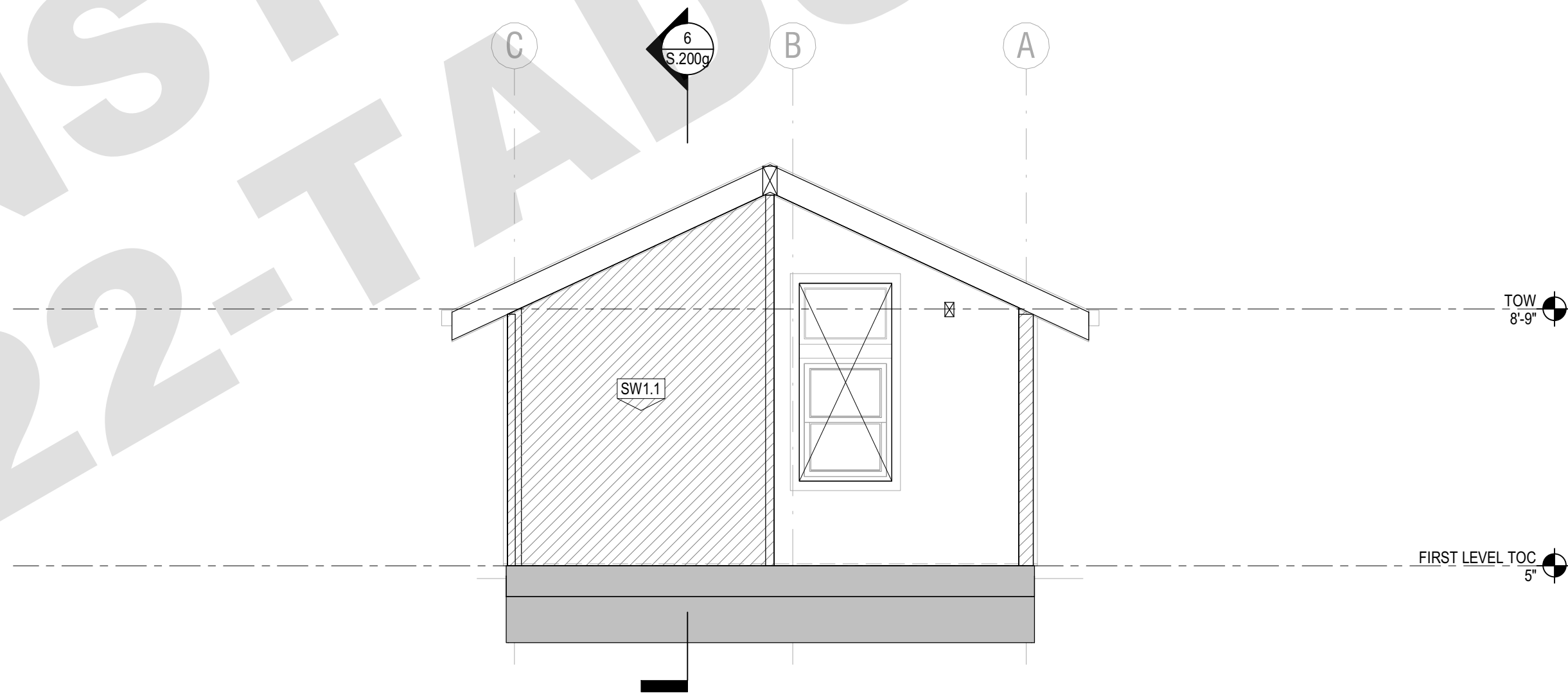
6(g) E-W SECTION
1/4" = 1'-0"



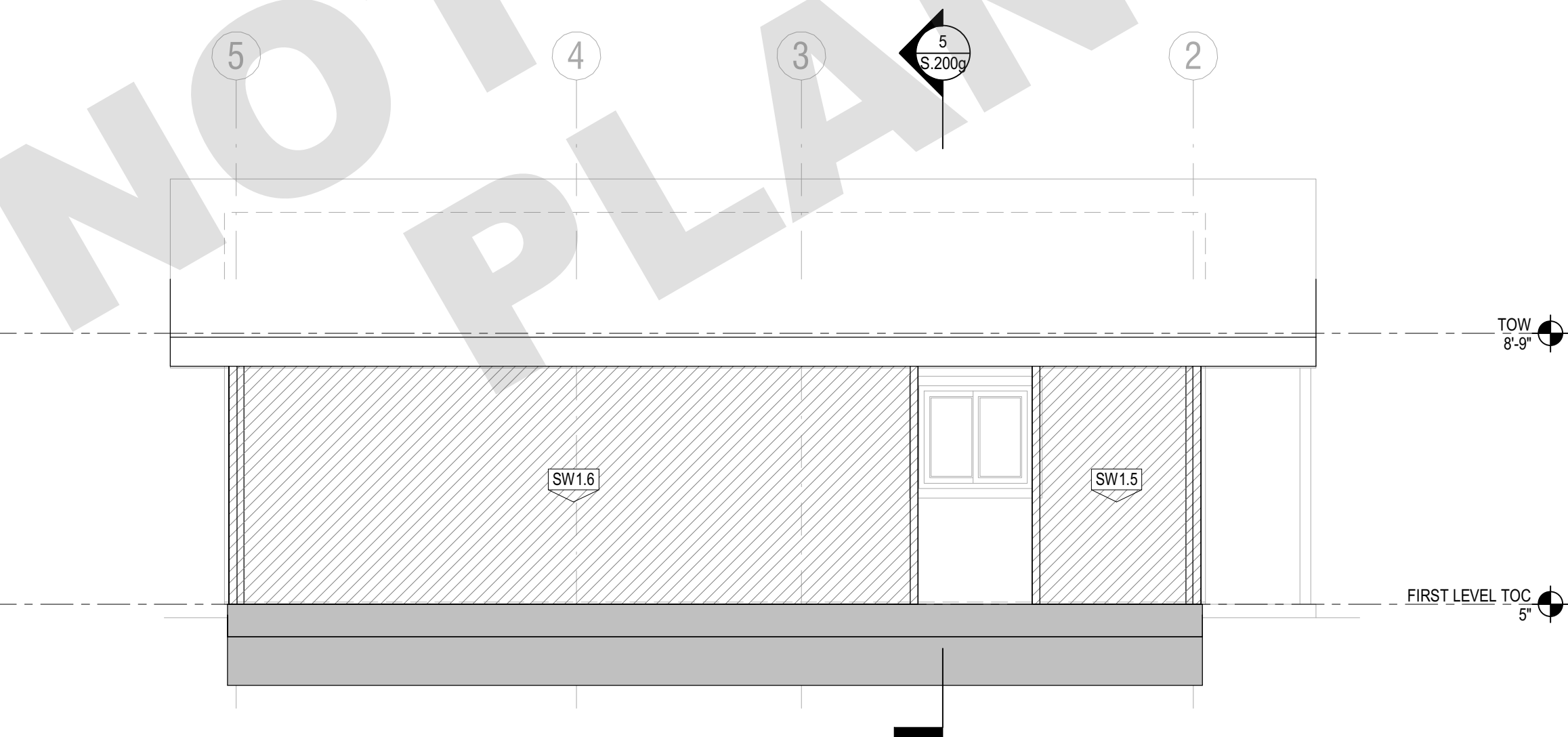
5(g) N-S SECTION
1/4" = 1'-0"



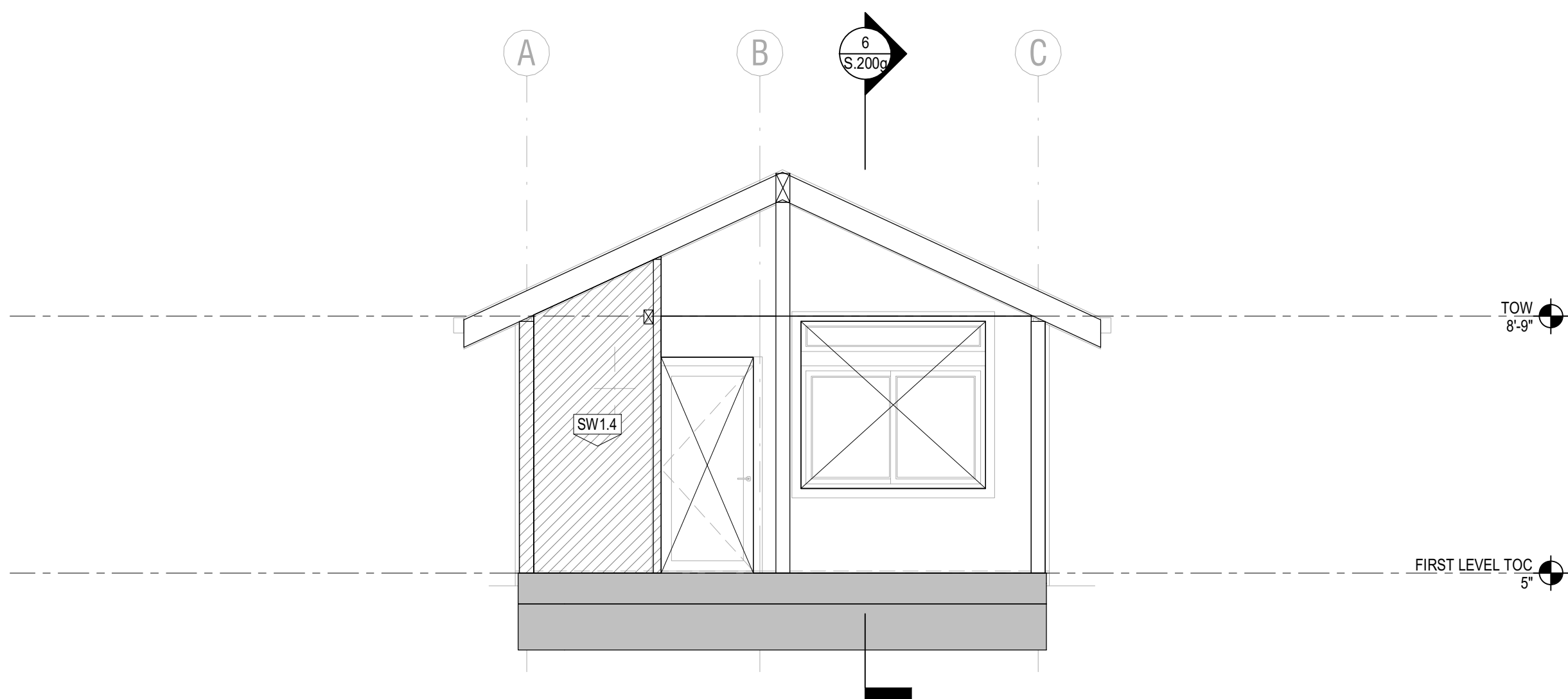
4(g) NORTH
1/4" = 1'-0"



3(g) WEST
1/4" = 1'-0"



2(g) SOUTH
1/4" = 1'-0"



1(g) EAST
1/4" = 1'-0"

REVISION:	DATE:	COMMENT:
2	06.03.22	PLAN CHECK CORRECTIONS
1	04.01.22	PLAN CHECK CORRECTIONS

SEAL:

REGISTERED PROFESSIONAL ENGINEER
ELIZABETH MAHONY
C80463
EXP 03/31/2023
CIVIL
STATE OF CALIFORNIA

Project No. 2104
ADU PROGRAM
CITY OF FRESNO
CALIFORNIA

DRAWING TITLE:
ADU 02
GABLE (GABLE-STUCCO)
ELEVATIONS SECTIONS

DATE: APRIL 1, 2022
SCALE: AS NOTED
DRAWN BY:

© Aaron Neubert Architects, INC. 2021

S.200g



AARON NEUBERT ARCHITECTS

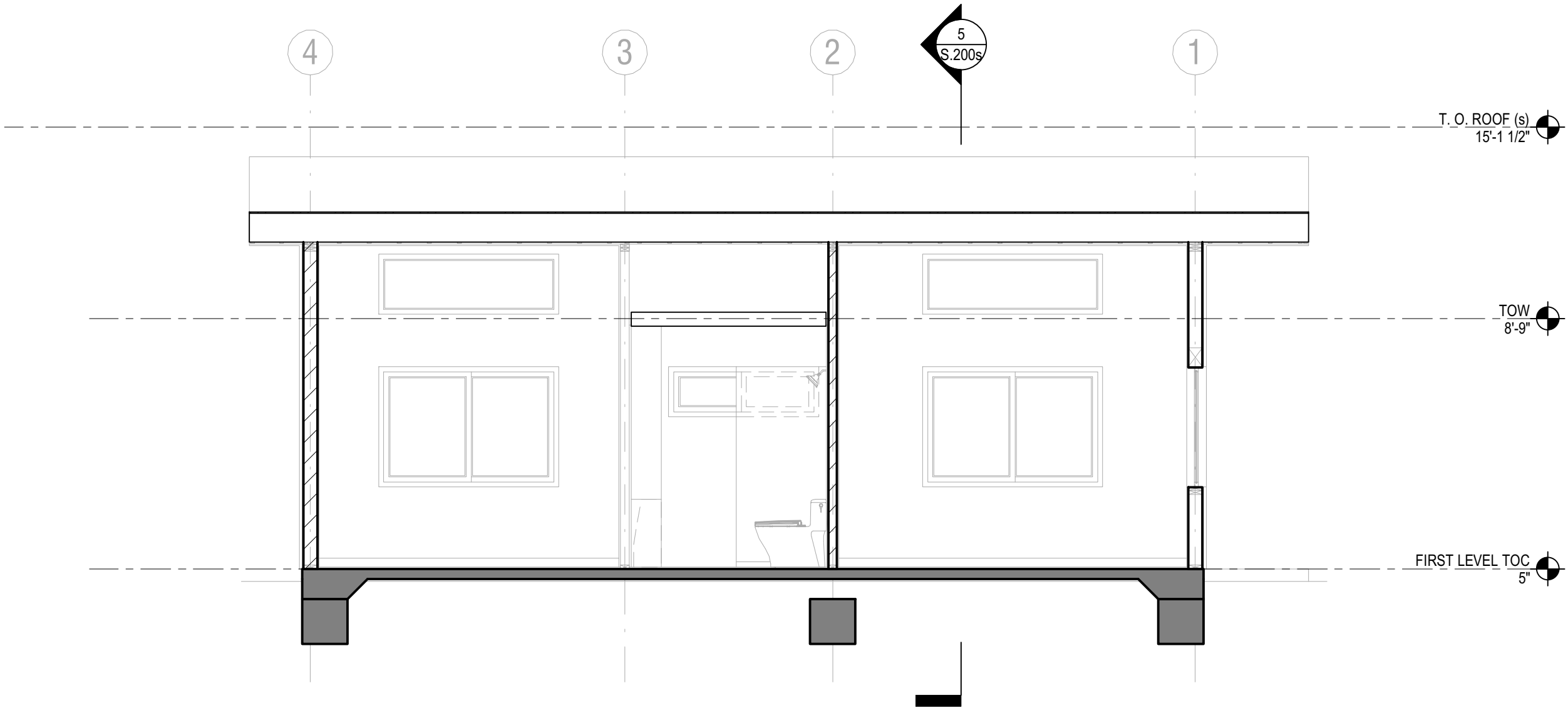
ADU PROGRAM

OWNER:
CITY OF FRESNO
PLANNING AND DEVELOPMENT DEPARTMENT
2000 FRESNO STREET, 3RD FLOOR
FRESNO, CA 93721

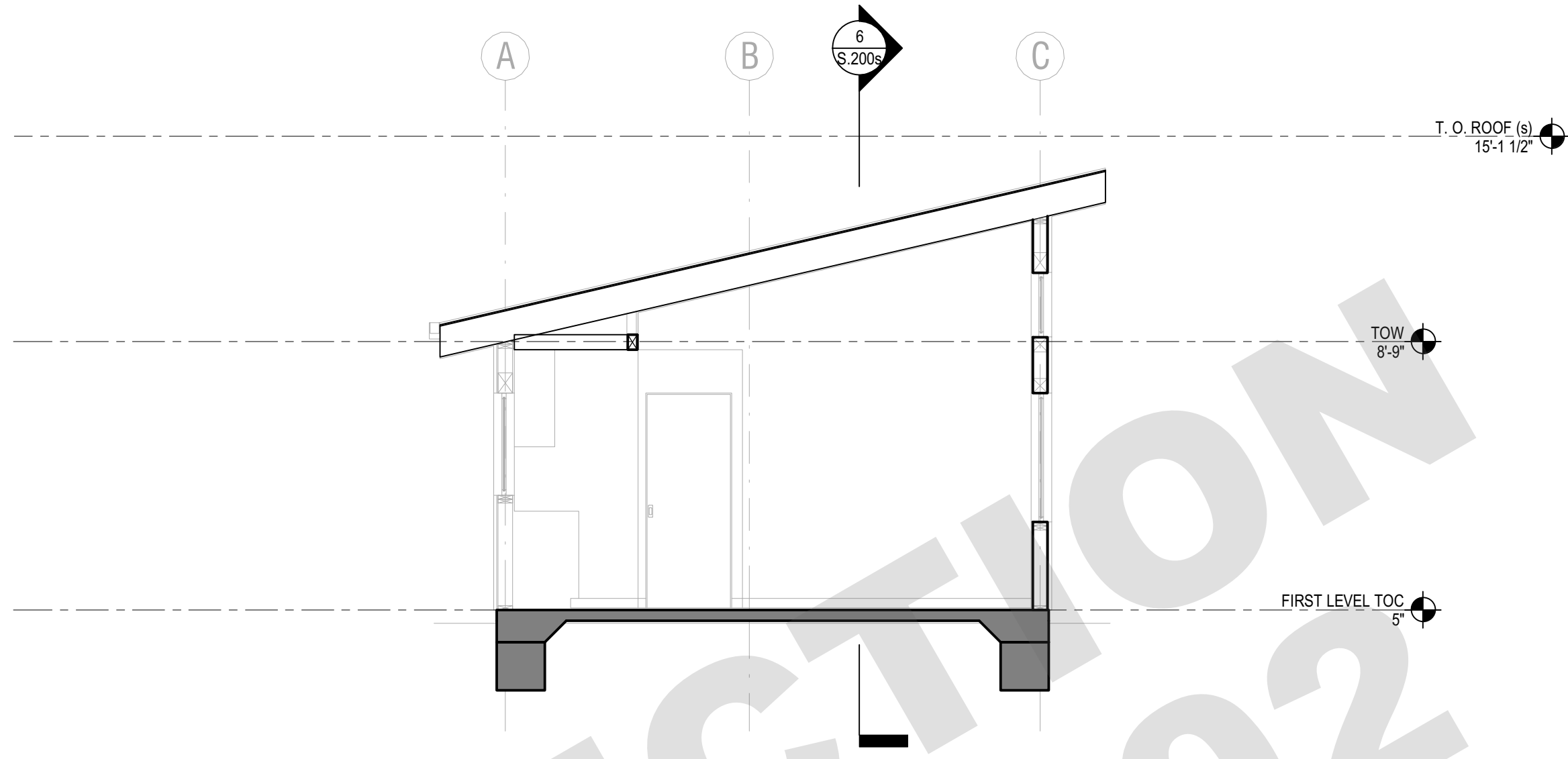
ARCHITECT:
AARON NEUBERT ARCHITECTS, INC.
2814 BROWNE AVENUE, SUITE ONE
LOS ANGELES, CALIFORNIA 90009
P. 323.953.4700 F. 323.953.4900
AARON NEUBERT CA# C-29025

STRUCTURAL ENGINEER:
NOUS ENGINEERING, INC.
600 WALSHIRE BOULEVARD, SUITE 700
LOS ANGELES, CALIFORNIA 90017
P. 213.827.6687

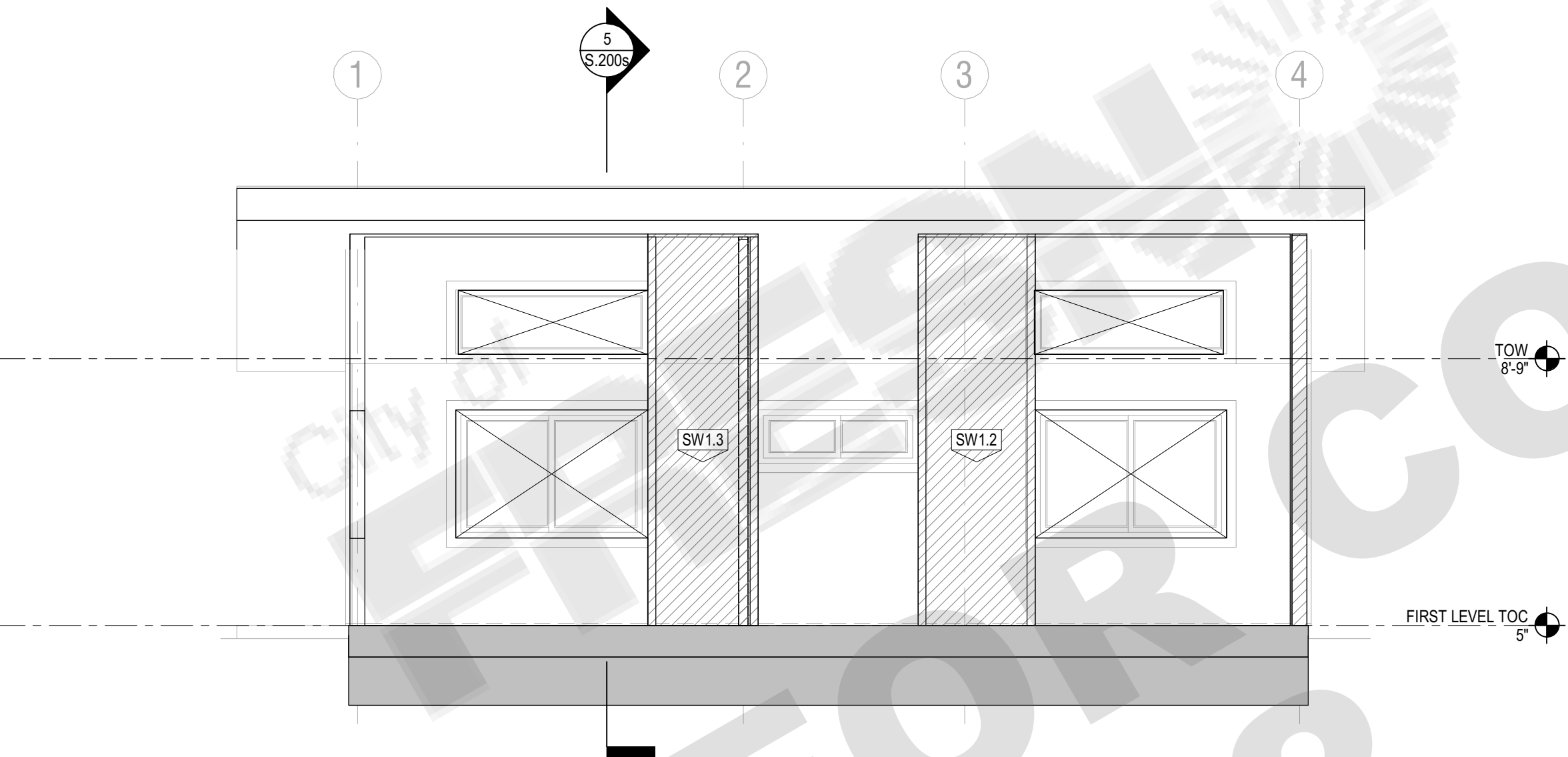
MEP ENGINEER:
INNOCENZ DESIGN AND ENGINEERING
726 FORBROUGH PLACE
PLEASANTON, CALIFORNIA 94566
P. 424.414.0907



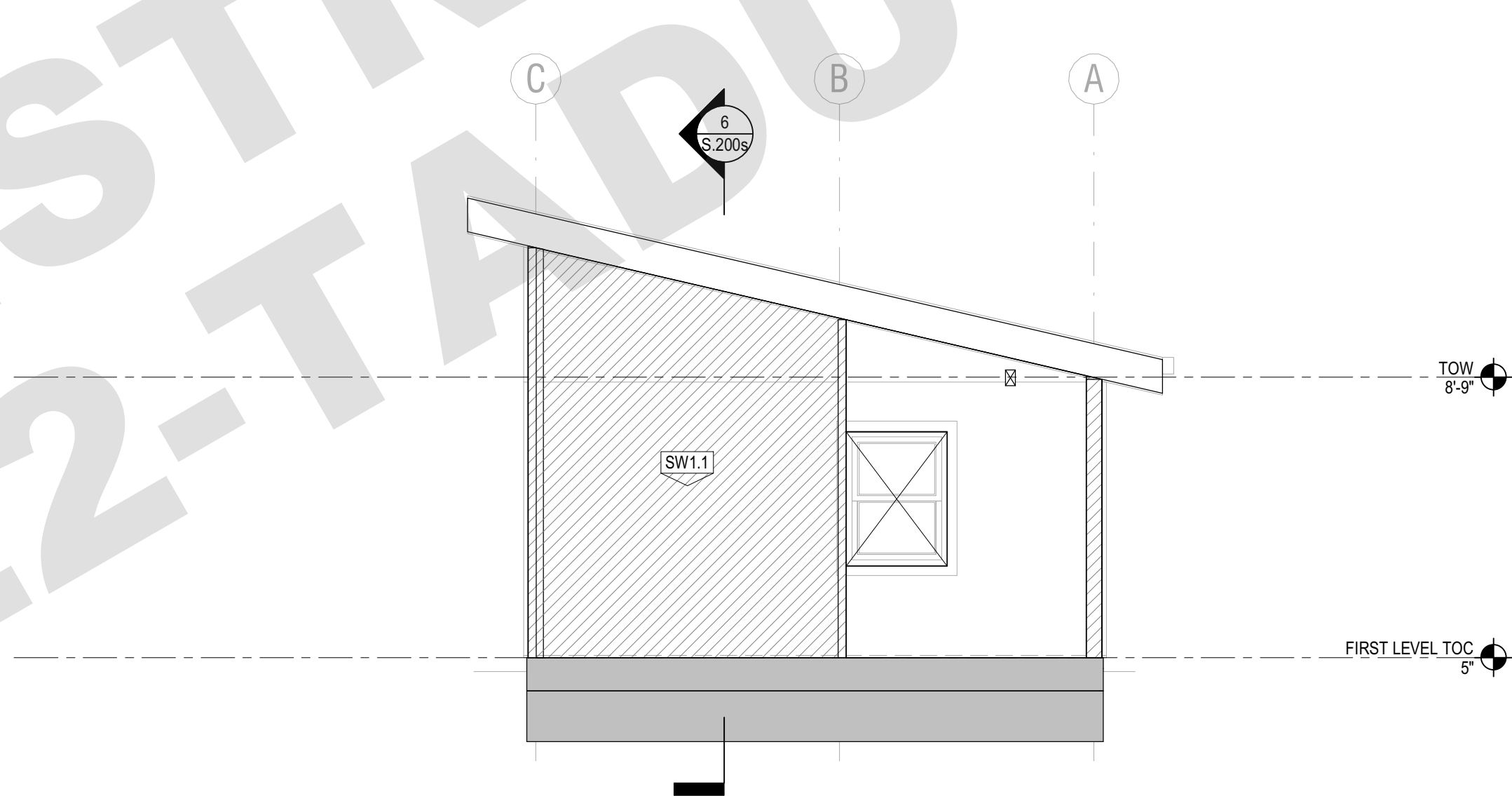
6(s) E-W SECTION
1/4" = 1'-0"



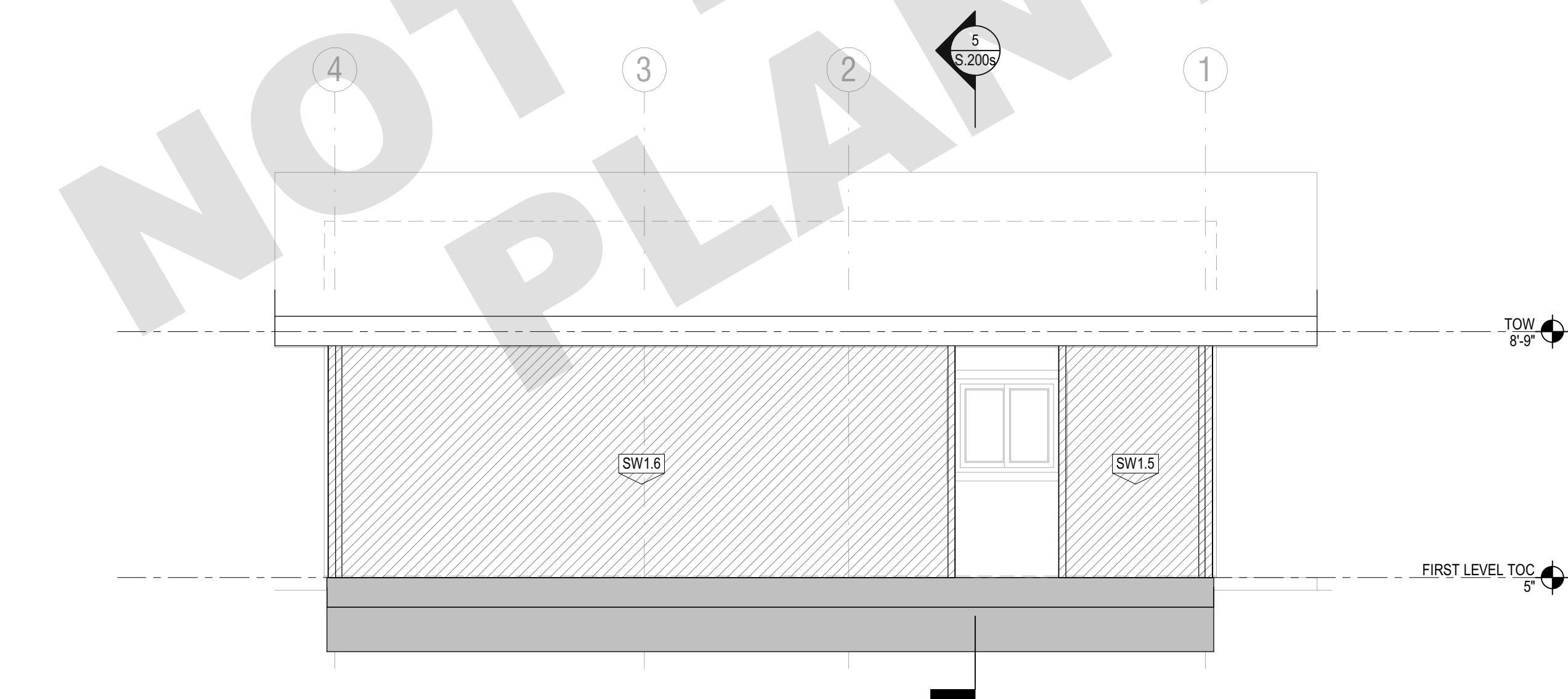
5(s) N-S SECTION
1/4" = 1'-0"



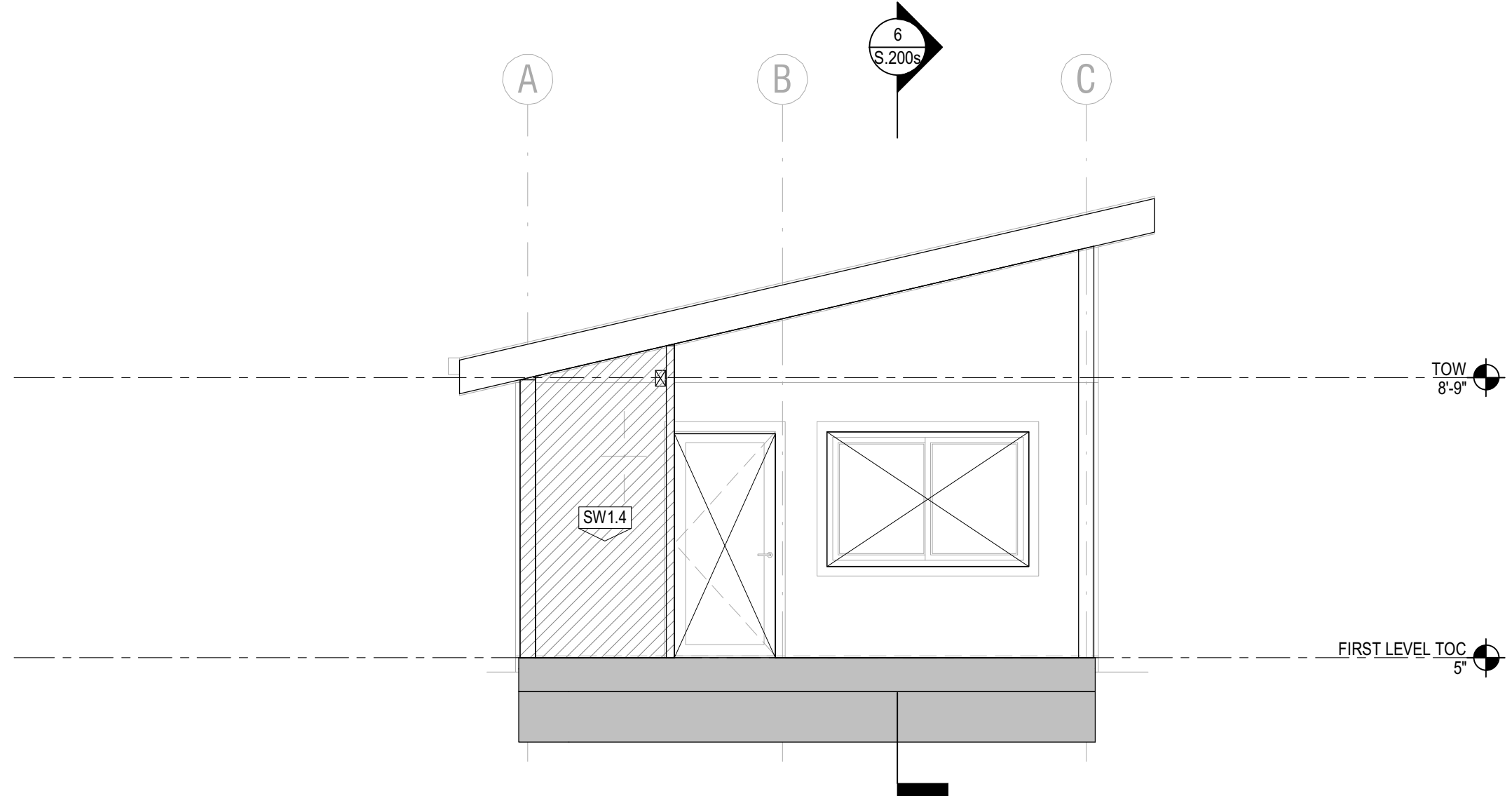
4(s) NORTH
1/4" = 1'-0"



3(s) WEST
1/4" = 1'-0"



2(s) SOUTH
1/4" = 1'-0"



1(s) EAST
1/4" = 1'-0"

REVISION:	DATE:	COMMENT:
2	REVISION #2 06.03.22	PLAN CHECK CORRECTIONS
1	REVISION #1 04.01.22	PLAN CHECK CORRECTIONS

SEAL:



Project No. 2104
ADU PROGRAM
CITY OF FRESNO
CALIFORNIA


DRAWING TITLE:
ADU 02
CONTEMPORARY
ELEVATIONS SECTIONS

DATE: APRIL 1, 2022
SCALE: AS NOTED

DRAWN BY:


S.200s

© Aaron Neubert Architects, INC. 2021

CERTIFICATE OF COMPLIANCE			CF18-PHF-01E (Page 1 of 10)	
Project Name: Fresno ADU Units_ADU_2(op1)			Calculation Date/Time: 2022-04-05T11:22:40-07:00	
Calculation Description: Title 24 Analysis			Input File Name: 2468_Fresno ADU Units(ADU_2_op1), 2600 Fresno St, 3rd Floor, Fresno, CA 95721_Energy Analysis_v8.rtd919	
GENERAL INFORMATION				
01	Project Name Fresno ADU Units_ADU_2(op1)			
02	Run Title Title 24 Analysis			
03	Project Location 2600 Fresno St			
04	City Fresno	05	Standards Version 2019	
06	Zip code 93721	07	Software Version EnergyPro 8.3	
08	Climate Zone 3	09	Front Orientation (deg/ Cardinal) AllOrientations	
10	Building Type Single family	11	Number of Dwelling Units 1	
12	Project Scope NewConstruction	13	Number of Bedrooms 1	
14	Addition Cond. Floor Area (ft²) 0	15	Number of Stories 1	
16	Existing Cond. Floor Area (ft²) n/a	17	Fenestration Average U-factor 0.3	
18	Total Cond. Floor Area (ft²) 314	19	Gazing Percentage (%) 24.82%	
20	ADU Bedroom Count n/a	21	ADU Conditioned Floor Area n/a	
22	Is Natural Gas Available? No			
				
COMPLIANCE RESULTS				
01	Building Complies with Computer Performance			
02	This building incorporates features that require field testing and/or verification by a certified HERS rater under the supervision of a CEC-approved HERS provider.			
03	This building incorporates one or more Special Features shown below			
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>Registration Number: 402-P01009080-000-000-0000000-0000</p> <p>CA Building Energy Efficiency Standards - 2019 Residential Compliance</p> </div> <div style="width: 45%; text-align: right;"> <p>Registration Date/Time: 04/06/2022 11:39</p> <p>Report Version: 2019-1200</p> <p>Schema Version: rev 20200001</p> </div> <div style="width: 10%; text-align: right;"> <p>HERS Provider: CEEHS</p> <p>Report Generated: 2022-04-06 11:23:12</p> </div> </div>				

CERTIFICATE OF COMPLIANCE Project Name: Fresno ADU Units_ADU-2(op1) Calculation Description: Title 24 Analysis		CF19-PRF-011 Page 2 of 10 Calculation Date/Time: 2022-04-06T11:23:40-07:00 Input File Name: 2468_Fresno ADU Units(ADU-2_op1)_2600 Fresno St, 3rd Floor, Fresno, CA 93721_Energy Analysis_v8.rbd191x	
ENERGY DESIGN RATING			
		Energy Design Ratings	
	Efficiency¹ (EDR)	Total² (EDR)	
	Efficiency³ (EDR)	Total³ (EDR)	
Standard Design	51.7	25.5	
Proposed Designs			
North Facing	51.3	25.2	0.4
East Facing	49.4	23.3	2.2
South Facing	49.5	23.4	2.1
West Facing	49.5	23.4	2.2
RESULT: ⁴ COMPLIES			
¹ Efficiency EDR includes improvements to the building envelope and more efficient equipment. ² Total EDR includes efficiency and demand response measures such as photovoltaic (PV) systems and batteries. ³ Building complies when efficiency and total compliance margins are greater than (or equal to) zero. ⁴ Standard Design PV Capacity: 2.13 kWdc • Proposed PV Capacity Scaling: North (2.13 kWdc) East (2.13 kWdc) South (2.13 kWdc) West (2.13 kWdc)			

CERTIFICATE OF COMPLIANCE Project Name: Fresno ADU Units_ADU-2(op1) Calculation Description: Title 24 Analysis		CF19-PHF-010 Calculation Date/Time: 2022-04-06T11:22:40-07:00 Input File Name: 2468_Fresno ADU Units(ADU-2_op1)_2600 Fresno St_3rd Floor, Fresno, CA 95712_Energy Analysis_v6.rbd019x (Page 3 of 10)		
ENERGY USE SUMMARY				
Energy Use (kTDD/yr)	Standard Design	Proposed Design	Compliance Margin	Percent Improvement
Space Heating	22.27	20.89	1.38	6.2
Space Cooling	75.34	77.55	-2.21	-2.9
AQI Ventilation	12.01	12.01	0	0
Water Heating	34.09	31.44	2.65	7.8
Self Utilization Credit	n/a	0	n/a	n/a
North Facing Compliance Total	143.71	141.89	1.82	1.3
Space Heating	22.27	21.55	0.72	3.2
Space Cooling	75.34	66.32	9.02	12
AQI Ventilation	12.01	12.01	0	0
Water Heating	34.09	31.44	2.65	7.8
Self Utilization Credit	n/a	0	n/a	n/a
East Facing Compliance Total	143.71	131.32	12.39	8.6
Space Heating	22.27	20.18	2.09	9.4
Space Cooling	75.34	68.15	7.19	9.5
AQI Ventilation	12.01	12.01	0	0
Water Heating	34.09	31.44	2.65	7.8
Self Utilization Credit	n/a	0	n/a	n/a
South Facing Compliance Total	143.71	131.78	11.93	8.3
Space Heating	22.27	19.14	3.13	14.1
Space Cooling	75.34	69.42	5.92	7.9
AQI Ventilation	12.01	12.01	0	0
Water Heating	34.09	31.44	2.65	7.8
Self Utilization Credit	n/a	0	n/a	n/a
West Facing Compliance Total	143.71	132.01	11.7	8.1

CERTIFICATE OF COMPLIANCE												CFR-PHF-016 (Page 4 of 10)	
Project Name: Fresno ADU Units_ADU-2_op1												Calculation Date/Time: 2022-04-06T11:22:40-0700	
Calculation Description: Title 24 Analysis												Input File Name: 2468_Fresno ADU Units(ADU-2_op1)_2600 Fresno St_3rd Floor, Fresno, CA 93721_Energy Analysis_v8.rbd013x	
REQUIRED PV SYSTEMS - SUMMIED													
01	02	03	04	05	06	07	08	09	10	11	12		
DC System Size (kWdc)	Exception	Module Type	Array Type	Power Electronics	CFI	Azimuth (deg)	Tilt Input	Array Angle (deg)	Title: lx in L21	Inverter (%)	Annual Solar Access (%)		
2.13	NA	Standard	Fixed	none	true	150-270	n/a	n/a	<>7.12	96	98		
REQUIRED SPECIAL FEATURES													
The following are features that must be installed as conditions for meeting the modeled energy performance for this computer analysis.													
<ul style="list-style-type: none"> • Indoor air quality, balanced fan • IAQ Ventilation System: as low as 0.575 W/CFM • IAQ Ventilation System Heat Recovery: minimum 62 SRE and 66 ASRE • Variable capacity heat pump compliance option (verification details from VCPHF Staff report, Appendix B, and RA3) 													
 <p style="font-size: 4em; opacity: 0.1; transform: rotate(-10deg); pointer-events: none;">WATERMARK</p>													
<div style="display: flex; justify-content: space-between;"> <div> Registration Number: 422-01008098A-000-000-0000000-0000 <small>REGISTRATION HAS BEEN GENERATED BY CALIFORNIA ENERGY EFFICIENCY RATING SYSTEM SERVICES, INC. ON 01/25/2022 USING INFORMATION SUBMITTED BY THIRD PARTIES NOT AFFILIATED WITH OR RELATED TO CHEERS. THEREFORE, CHEERS IS NOT RESPONSIBLE FOR ANY ERRORS OR OMISSIONS, THE ACCURACY OR COMPLETENESS OF THE INFORMATION CONTAINED IN THIS DOCUMENT.</small> CA Building Energy Efficiency Standards - 2019 Residential Compliance </div> <div> Registration Date/Time: 04/06/2022 11:39 Report Version: 2019.3.2001 </div> <div> HERS Provider: CHEERS Report Generated: 2022-04-06 11:29:12 </div> </div>													

CERTIFICATE OF COMPLIANCE		Project Name: Fresno ADU Units_ADU-2op1		Calculation Date/Time: 2022-04-04T07:11:22+07:00		CS19-PHF-01E (Page 1 of 1)	
Calculation Description: Title 24 Analysis		Input File Name: 2468_Fresno ADU Units_ADU-2_op1_1, 2600 Fresno St, 3rd Floor, Fresno, CA 93721_Energy Analysis_vb10m15v					
HERS FEATURE SUMMARY							
The following is a summary of the features that must be field-verified by a certified HERS Rater as a condition for meeting the modeled energy performance for this computer analysis. Additional detail is provided in the building tables below. Registered CF2Ns and CF3Ns are required to be completed in the HERS Registry.							
Building Level Verifications:							
<ul style="list-style-type: none"> * Quality Insulation Installation (QII) * Indoor air quality ventilation * Kitchen range hood 							
Cooling System Verifications:							
<ul style="list-style-type: none"> * Verified SEER * Verified SHER * Verified Refrigerant Charge * Airflow in habitable rooms (SC1.3.4.1.7) * Minimum Airflow according to RA3.3 and SC3.3.4.1 							
Heating System Verifications:							
<ul style="list-style-type: none"> * Verified HSPF * Verified heat pump rated heating capacity * CEC certified low-static VCMF system * Wall-mounted thermostat in zones greater than 130 ft² (SC4.5) * Verified air filter sizing (SC1.4.7) * Verified air filter pressure drop rating 							
HVAC Distribution System Verifications:							
<ul style="list-style-type: none"> * Ducts located entirely in conditioned space confirmed by duct leakage testing * Verified low-leakage ducts in conditioned space must meet maximum 25 cm leakage to outside (RA3.1.4.1.8) 							
Domestic Hot Water System Verifications:							
<ul style="list-style-type: none"> * — None — 							
BUILDING - FEATURES INFORMATION							
01	02	03	04	05	06	07	
Project Name	Conditioned Floor Area (ft ²)	Number of Dwelling Units	Number of Bedrooms	Number of Zones	Number of Ventilation Cooling Systems	Number of Water Heating Systems	
Fresno ADU Units_ADU-2op1	514	1	1	1	0	1	
ZONE INFORMATION							
01	02	03	04	05	06	07	
Zone Name	Zone Type	HVAC System Name	Zone Floor Area (ft ²)	Avg. Ceiling Height	Water Heating System 1	Water Heating System 2	
Living Area_ADU2	Conditioned	HVAC System1	514	9.33	DHW Sys 1	N/A	
Registration Number: 422-010400909A-000-000-0000000-0000		Registration Date/Time: 04/06/2022 11:39		HERS Provider: CHEIRS			
<small>California Energy Commission's Energy Rating System Services, Inc. ("CES") hereby certifies that the information contained herein was prepared by or under the direct supervision of a qualified professional who is duly licensed or otherwise qualified to perform such services, and whose qualifications, the accuracy or completeness of the information submitted in this document.</small>				<small>Report Version: 2019.12.009 Schema Version: rev 20200001</small>			
<small>CEC Building Energy Efficiency Standards – 2019 Residential Compliance</small>				<small>Report Generated: 2022-04-06 11:23:12</small>			

[illegible]

O1		O2		O3		O4	
Name		Side of Building		Area (ft²)		U-factor	
Door 306R_		Front Wall N		20		0.2	

O1	O2	O3	O4	O5	O6	O7	O8
Name	Zone	Area (ft²)	Perimeter (ft)	Edge Insul. R-value and Depth	Edge Insul. R-value and Depth	Carpeted Fraction	Hooded
Slab-on-Grade	Living Area_ADJ2	514	94	none	0	80%	None

OPAQUE SURFACE CONSTRUCTIONS							
O1	O2	O3	O4	O5	O6	O7	O8
Construction Name	Surface Type	Construction Type	Framing	Total Cavty R-value	Interior / Exterior Continuitie R-value	U-factor	Assembly Layers
R-21 Wall_	Exterior Walls	Wood Framed Wall	2x6 @ 16 in. O. C.	R-21	None / None	0.069	Inside Finish: Gypsum Board Cavity / Frame: R-21 / 2x6 Exterior Siding: 3 Coat Sidero
R-38 Roof No Attic_	Cathedral Ceilings	Wood Framed Ceiling	2x12 @ 16 in. O. C.	R-38	None / None	0.03	Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/Airsealing: decking Cavity / Frame: R-38 / 2x12 Inside Finish: Gypsum Board

BUILDING ENVELOPE - HEAT VERIFICATION			
O1	O2	O3	O4
Quality Installation [QI]	High R-value Spray Foam Insulation	Building Envelope Air Leakage	CFM50
Required	Not Required	Not Required	n/a

Registration Number: 422-P01004008A-000-00-000000-0000 <small>This document is the property of the California Energy Efficiency Rating System (EERS). It contains information that may be confidential or otherwise subject to legal protection under state or federal law. The user agrees to keep this information confidential and not to disclose it to third parties not affiliated with or related to CEERS. Therefore, CEERS® is not responsible for, and cannot guarantee, the accuracy or completeness of the information contained in this document.</small> CA Building Energy Efficiency Standards – 2019 Residential Compliance Report Version: 2019.3.20	Registration Date/Time: 04/06/2022 11:39 Report Generated: 2022-04-06 11:23:12 Schema Version: rev 20200001	EERS Provider: CHEERS Report Created: 2022-04-06 11:23:12
---	---	--

<div style="display: flex; justify-content: space-between;"> <div> CERTIFICATE OF COMPLIANCE Project Name: Fresno ADU Units_ADU-2.op1 Calculation Description: Title 24 Analysis </div> <div> Calculation Date/Time: 2022-04-06T11:22:40-07:00 Input File Name: 2468_Fresno ADU Units_ADU-2.op1, 2600 Fresno St, 3rd Floor, Fresno, CA 93721_Energy Analysis_v4.01.xlsx </div> <div> C219-PHF-010 (Page 8 of 10) </div> </div>											
WATER HEATING SYSTEMS											
01	02	03	04	05	06	07	08	09	10	11	12
Name	System Type	Distribution Type	Water Heater Name (H)	Solar Heating System	Compact Distribution	HEIRS Verification					
DHW Sys 1	Domestic Hot Water (DHW)	Standard Distribution System	DHW Heater 1 (1)	n/a	None	n/a					
WATER HEATERS											
01	02	03	04	05	06	07	08	09	10	11	12
Name	Heating Element Type	Tank Type	# of Units	Tank Size (gal)	Energy Factor or Efficiency	Input Rating or Pilot (kW/MBtu/hr)	Tank Insulation R-value (in R-Val)	Handily Loss or Heat Eff	1st Ht. Rating or Flow Rate	NEEA Heat Pump Brand or Model	Tank Location or Ambient Condition
DHW Heater 1	Gas	Consumer Instantaneous	1	0	0.91-UR1	<div style="border: 1px solid black; padding: 2px; display: inline-block;"> 4200 MBtu/hr </div>	0	n/a	n/a	n/a	n/a
WATER HEATING - HEIRS VERIFICATION											
01	02	03	04	05	06	07	08				
Name	Pipe Insulation	Parallel Piping	Compact Distribution	Recirculation Control	Control DHW Distribution	Shower Drain Water Heat Recovery					
DHW Sys 1-1/1	Not Required	Not Required	Not Required	None	Not Required	Not Required					
SPACE CONDITIONING SYSTEMS											
01	02	03	04	05	06	07	08	09	10	11	
Name	System Type	Heating Unit Name	Cooling Unit Name	Fan Name	Distribution Name	Required Thermostat Type	Status	Verified Existing Condition	Heating Equipment Count	Cooling Equipment Count	
HVAC System1	Heat pump heating cooling	Heat Pump System 1	Heat Pump System 1	n/a	n/a	Setback	New	NA	1	1	

Registration Number: 422-P0104088A-000-0000000-0000
 REGISTRATION: This registration number is required for all projects using this form. The registration number is not a guarantee of the accuracy of the information contained in this document.

Registration Date/Time: 04/06/2022 11:39
 Version: 2019.03.01
 Schema Version: rev.20200001

HEIRS Provider: CHEERS
 CHEERS: The registration number is required for all projects using this form. The registration number is not a guarantee of the accuracy of the information contained in this document.

CA Building Energy Efficiency Standards - 2019 Residential Compliance

Report Generated: 2022-04-06 11:29:12

CERIFICATE OF COMPLIANCE										CFR 919-01F
Project Name: Fresno ADU Units_ADU_2[01]										Calculation Date/Time: 2022-04-04T07:00:00Z
Calculation Description: Title 24 Analysis										Input File Name: 2408_Fresno ADU Units\ADU_2_ep11_2600 Fresno St_3rd Floor_Fresno, CA 93721_Energy Analysis_v6r1nbt39
01	02	03	04	05	06	07	08	09	10	11
HVAC - HEAT PUMPS										
Name	System Type	Number of Units	Heating		Cooling		Zonality Controlled	Compressor Type	HERS Verification	
			HSPF/COP	Cap 47	Cap 17	SEER	EER/CEER			
Heat Pump System 1	VCHP-ducted	1	10	1200W	960W	18.5	11.8	Not Zonal	Single Speed	Heat Pump System 3-her's-humpup
HVAC HEAT PUMP SYSTEMS - HERS VERIFICATION										
01	02	03	04	05	06	07	08	09	10	11
Name	Verified Airflow	Airflow Target	Verified SEER	Verified Refrigerant Charge	Verified HSPF	Verified Heating Cap 47	Verified Heating Cap 17			
Heat Pump System 1 3-her's-humpup	Not Required	0	Required	Required	Yes	Yes	Yes	Yes		
VARIABLE CAPACITY HEAT PUMP COMPLIANCE OPTION - HERS VERIFICATION										
01	02	03	04	05	06	07	08	09	10	11
Name	Certified Low-static VCHP System	Airflow to Habitable Rooms	Ductless Units in Conditioned Space	Wall Mount Thermostat	Air Filter Sizing Based on Pressure Drop Rating	Low Leakage Ducts in Conditioned Space	Minimum Airflow per RA3.3 and SC3.3.4.1	Certified non-commissioning Fan	Indoor Fan not Running Continuously	
Heat Pump System 1	Required	Required	Not required	Required	Required	Required	Required	Required	Required	
IAQ (INDOOR AIR QUALITY) FANS										
01	02	03	04	05	06	07	08	09	10	11
Dwelling Unit	IAQ CFM	Watts/CFM	IAQ Fan Type	IAQ Recovery Effectiveness - SRE	IAQ Recovery Effectiveness - ASRE	HERS Verification				
Sfarn IAQWentRpt 1-1	40	0.575	Balanced	62	66	Yes				

CERTIFICATE OF COMPLIANCE Project Name: Fresno ADUs_ADU_2_cpl1 Calculation Description: Title 24 Analysis		Calculation Date/Time: 2022-04-06T11:22:40-07:00 Input File Name: 2468_Fresno ADUs_ADU_2_cpl1_2600 Fresno St_3rd Floor_Fresno, CA 95722_Energy Analysis_v0.01.cpl		CFIR-PFR ID# Page 10 of 10
DOCUMENTATION AUTHOR'S DECLARATION STATEMENT I, I certify that this Certificate of Compliance documentation is accurate and complete.				
Documentation Author Name: Viranchi Shah		Documentation Author Signature: 		
Company: www.gettitle24.com		Signature Date: 04/06/2022		
Address: 14780 Beach Blvd., #133		CEI HERS Certification Identification (If applicable):		
City/State/Zip: La Mirada, CA 90638		Phone: 714-888-4736		
RESPONSIBLE PERSON'S DECLARATION STATEMENT I certify the following under penalty of perjury under the law of the State of California:				
1. I am eligible under Division 31 of the business and Professions Code to accept responsibility for the building design on this Certificate of Compliance.				
2. I certify that the energy features and performance specifications identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.				
3. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided or other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit specification.				
Responsible Designer Name: Jeremy Limsenben		Responsible Designer Signature: 		
Company: Aaron Neubert Architects		Date: 04/06/2022		
Address: 2814 Rowena Avenue Suite 1		License: Architecture		
City/State/Zip: Los Angeles, CA 90039		Phone: (323) 953-4700		

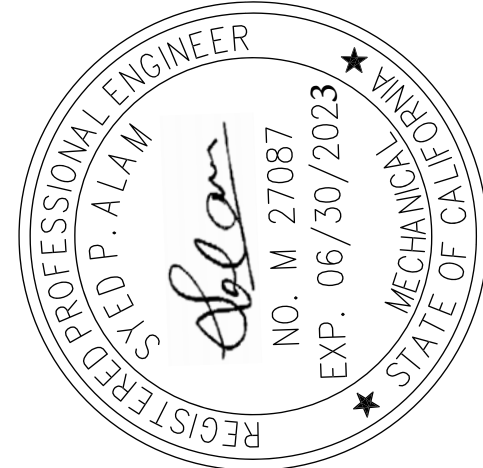
T24 PREPARED BY:
www.getTitle24.com
viranchi@gettitle24.com
PHONE: (714) 888-4736

TITLE 24 ENERGY COMPLIANCE REPORT
SHEET 2 OF 5

DATE: 4/6/2022

Fresno ADU Units_ADU-2
ADDRESS: 2600 Fresno St
Fresno, CA 93721

T24-2



RESIDENTIAL MEASURES SUMMARY										RMS-1
Project Name Fresno ADU Units_ADU-1(op1)		Building Type <input checked="" type="checkbox"/> Single Family <input type="checkbox"/> Multi Family		<input type="checkbox"/> Addition Alone <input type="checkbox"/> Existing+ Addition/Alteration		Date 4/6/2022				
Project Address 2600 Fresno St Fresno		California Energy Climate Zone CA Climate Zone 13		Total Cond. Floor Area 347		Addition n/a		# of Units 1		
INSULATION			Area							
Construction Type			Cavity	(ft²)	Special Features	Status				
Wall	Wood Framed		R 20	605		New				
Door	Opaque Door		R-5	20		New				
Slab	Unheated Slab-on-Grade		- no insulation	347	Perim = 74"	New				
Roof	Wood Framed Rafter		R 38	347		New				

RESIDENTIAL MEASURES SUMMARY										RMS-1
Project Name Fresno ADU Units_ADU-2(op1)		Building Type <input checked="" type="checkbox"/> Single Family <input type="checkbox"/> Multi Family		<input type="checkbox"/> Addition Alone <input type="checkbox"/> Existing+ Addition/Alteration		Date 4/6/2022				
Project Address 2600 Fresno St Fresno		California Energy Climate Zone CA Climate Zone 13		Total Cond. Floor Area 514		Addition n/a		# of Units 1		
INSULATION		Area								
Construction	Type	Cavity	(ft²)	Special Features				Status		
Wall	Wood Framed	R 20	729					New		
Door	Opaque Door	R-5	20					New		
Slab	Unheated Slab-on-Grade	- no insulation	514	Perim = 94"				New		
Roof	Wood Framed Rafter	R 38	514					New		
FENESTRATION		Total Area: 128		Glazing Percentage: 24.8%		New/Altered Average U-Factor: 0.30				
Orientation	Area(ft²)	U-Fac	SHGC	Overhang	Sidefins	Exterior Shades		Status		
Front (N)	29.0	0.300	0.23	none	none	N/A		New		
Rear (S)	20.5	0.300	0.23	none	none	N/A		New		
Left (E)	12.6	0.300	0.23	none	none	N/A		New		
Right (W)	65.5	0.300	0.23	none	none	N/A		New		
HVAC SYSTEMS										
Qty.	Heating	Min. Eff	Cooling	Min. Eff	Thermostat	Status				
1	Split Heat Pump	10.00 HSPF	Split Heat Pump	18.5 SEER	Setback	New				
HVAC DISTRIBUTION										
Location	Heating	Cooling	Duct Location	Duct R-Value	Status					
HVAC System	Ducted	Ducted	Conditioned	6.0	New					
WATER HEATING										
Qty.	Type	Gallons	Min. Eff	Distribution	Status					
1	Small Instantaneous Gas	1	0.91	Standard	New					
EnergyPro 8.3 by EnergySoft User Number: 3835 ID: 12468 Page 13 of 18										

RESIDENTIAL MEASURES SUMMARY										RMS-1
Project Name Fresno ADU Units_ADU-3(op1)		Building Type <input checked="" type="checkbox"/> Single Family <input type="checkbox"/> Multi Family				<input type="checkbox"/> Addition Alone <input type="checkbox"/> Existing+ Addition/Alteration		Date 4/6/2022		
Project Address 2600 Fresno St Fresno		California Energy Climate Zone CA Climate Zone 13		Total Cond. Floor Area 633		Addition n/a		# of Units 1		
INSULATION			Area							
Construction Type			Cavity	(ft²)	Special Features			Status		
Wall	Wood Framed		R 20	731				New		
Door	Opaque Door		R-5	20				New		
Slab	Unheated Slab-on-Grade		- no insulation	633	Perim = 100'			New		
Roof	Wood Framed Rafter		R 38	633				New		

RESIDENTIAL MEASURES SUMMARY										RMS-1
Project Name Fresno ADU Units_ADU-4(op1)		Building Type <input checked="" type="checkbox"/> Single Family <input type="checkbox"/> Multi Family		<input type="checkbox"/> Addition Alone <input type="checkbox"/> Existing+ Addition/Alteration		Date 4/6/2022				
Project Address 2600 Fresno St Fresno		California Energy Climate Zone CA Climate Zone 13		Total Cond. Floor Area 633		Addition n/a		# of Units 1		
INSULATION			Area							
Construction Type			Cavity	(ft²)	Special Features	Status				
Wall	Wood Framed		R 20	750		New				
Door	Opaque Door		R-5	20		New				
Demising	Wood Framed w/o Crawl Space		R 19	633		New				
Roof	Wood Framed Rafter		R 38	633		New				

RESIDENTIAL MEASURES SUMMARY										RMS-1
Project Name Fresno ADU Units_ADU-5(op1)		Building Type <input checked="" type="checkbox"/> Single Family <input type="checkbox"/> Multi Family		<input type="checkbox"/> Addition Alone <input type="checkbox"/> Existing+ Addition/Alteration		Date 4/6/2022				
Project Address 2600 Fresno St Fresno		California Energy Climate Zone CA Climate Zone 13		Total Cond. Floor Area 1,015		Addition n/a		# of Units 1		
INSULATION		Area								
Construction Type		Cavity	(ft²)	Special Features				Status		
Wall	Wood Framed	R 20	987					New		
Door	Opaque Door	R-5	20					New		
Slab	Unheated Slab-on-Grade	- no insulation	1,015	Perim = 140'				New		
Roof	Wood Framed Rafter	R 38	1,015					New		
FENESTRATION										
		Total Area:	253	Glazing Percentage:		24.9%	New Glazed Average U-Factor:		0.30	
Orientation	Area(ft²)	U-Fac	SHGC	Overhang	Sidefins	Exterior Shades		Status		
Front (N)	41.6	0.300	0.23	none	none	N/A		New		
Rear (S)	61.1	0.300	0.23	none	none	N/A		New		
Left (E)	100.6	0.300	0.23	none	none	N/A		New		
Right (W)	49.5	0.300	0.23	none	none	N/A		New		
HVAC SYSTEMS										
Qty.	Heating	Min. Eff	Cooling	Min. Eff	Thermostat	Status				
1	Split Heat Pump	10.0 EER	HSFP	Split Heat Pump	21.0 SEER	Setback		New		
HVAC DISTRIBUTION										
Location	Heating	Cooling	Duct Location	Duct R-Value	Status					
HVAC System	Ducted	Ducted	Conditioned	6.0	New					
WATER HEATING										
Qty.	Type	Gallons	Min. Eff	Distribution	Status					
1	Storage Instantaneous Gas	1	0.91	Standard	New					
EnergyPro 8.3 by EnergySoft User Number: 3835 ID: 1458 Page 14 of 19										



2019 Low-Rise Residential Mandatory Measures Summary

§ 150.0(k)(2)(G):	Interior Switches and Controls. An energy management control system (EMCS) may be used to comply with control requirements if it: provides functionality of the specified control according to § 110.9; meets the Installation Certificate requirements of § 130.4; meets the EMCS requirements of § 130.0(e); and meets all other requirements in § 150.0(k)(2).
§ 150.0(k)(2)(H):	Interior Switches and Controls. A multiscene programmable controller may be used to comply with dimmer requirements in § 150.0(k)(2) if it provides the functionality of a dimmer according to § 110.9, and complies with all other applicable requirements in § 150.0(k)(2).
§ 150.0(k)(2)(I):	Interior Switches and Controls. In bathrooms, garages, laundry rooms, and utility rooms, at least one luminaire in each of these spaces must be controlled by an occupant sensor or a vacancy sensor providing automatic-off functionality. If an occupant sensor is installed, it must be initially configured to manual-on operation using the manual control required under Section 150.0(k)(2)(J).
§ 150.0(k)(2)(J):	Interior Switches and Controls. Luminaires that are or contain light sources that meet Reference Joint Appendix JA8 requirements for dimming, and that are not controlled by occupancy or vacancy sensors, must have dimming controls.
§ 150.0(k)(3A):	Interior Switches and Controls. Under cabinet lighting must be controlled separately from ceiling-installed lighting systems.
§ 150.0(k)(3B):	Residential Outdoor Lighting. For single-family residential buildings, outdoor lighting permanently mounted to a residential building, or to other buildings on the same lot, must meet the requirements in Item § 150.0(k)(3A) (ON and OFF switch) and the requirements in either § 150.0(k)(3A)(i) (photocell) and either a motion sensor or automatic time switch control) or § 150.0(k)(3A)(ii) (astronomical time clock), or an EMCS.
§ 150.0(k)(3C):	Residential Outdoor Lighting. For low-rise residential buildings with four or more dwelling units, outdoor lighting for private patios, entrances, balconies, and porches, and residential parking lots and carports with less than eight vehicles per site must comply with either § 150.0(k)(3A) or with the applicable requirements in Sections 110.9, 130.0, 130.2, 130.4, 140.7 and 141.0.
§ 150.0(k)(3D):	Residential Outdoor Lighting. For low-rise residential buildings with four or more dwelling units, any outdoor lighting for residential parking lots or carports with a total of eight or more vehicles per site and any outdoor lighting not regulated by § 150.0(k)(3B) or § 150.0(k)(3D) must comply with the applicable requirements in Sections 110.9, 130.0, 130.2, 130.4, 140.7 and 141.0.
§ 150.0(k)(4):	Internally Illuminated Address Signs. Internally illuminated address signs must comply with § 140.8; or must consume no more than 5 watts of power as determined according to § 130.0(c).
§ 150.0(k)(5):	Residential Garages for Eight or More Vehicles. Lighting for residential parking garages for eight or more vehicles must comply with the applicable requirements for nonresidential garages in Sections 110.9, 130.0, 130.1, 130.4, 140.6, and 141.0.
§ 150.0(k)(6A):	Interior Common Areas of Low-rise Multifamily Residential Buildings. In a low-rise multifamily residential building where the total interior common area in a single building equals 20 percent or less of the floor area, permanently installed lighting for the interior common areas in that building must be compliant with Table 150.0-4A and be controlled by an occupant sensor.
§ 150.0(k)(6B):	Interior Common Areas of Low-rise Multifamily Residential Buildings. In a low-rise multifamily residential building where the total interior common area in a single building equals more than 20 percent of the floor area, permanently installed lighting for the interior common areas in that building must: i. Comply with the applicable requirements in Sections 110.9, 130.0, 130.1, 140.6 and 141.0; and ii. Lighting installed in corridors and stairwells must be controlled by occupant sensors that reduce the lighting power in each space by at least 50 percent. The occupant sensors must be capable of turning the light fully on and off from all assigned paths of ingress and egress.
Solar Ready Buildings:	
§ 110.10(a)(1):	Single Family Residences. Single family residences located in subdivisions with 10 or more single family residences and where the application for a tentative subdivision map for the residences has been deemed complete and approved by the enforcement agency, which do not have a photovoltaic system installed, must comply with the requirements of § 110.10(b) through § 110.10(d).
§ 110.10(a)(2):	Low-rise Multifamily Buildings. Low-rise multi-family buildings that do not have a photovoltaic system installed must comply with the requirements of § 110.10(b) through § 110.10(d).
§ 110.10(b)(1):	Minimum Solar Zone Area. The solar zone must have a minimum total area as described below. The solar zone must comply with access, pathway, smoke ventilation, and spacing requirements as specified in Title 24, Part 9 or other parts of Title 24 or in any requirements adopted by local jurisdiction. The solar zone must be comprised of areas that have no dimension less than 5 feet and are no less than 80 square feet each for buildings with roof areas less than or equal to 10,000 square feet or no less than 160 square feet each for buildings with roof areas greater than 10,000 square feet. For single family residences, the solar zone must be located on the roof or overhang of the building and have a total area no less than 200 square feet. For low-rise multi-family buildings the solar zone must be located on the roof or overhang of the building, or on the roof or overhang of another structure located within 250 feet of the building, or on covered parking installed with the building project, and have a total area no less than 15 percent of the total roof area of the building excluding any skylight area. The solar zone requirement is applicable to the entire building, including mixed occupancy.
§ 110.10(b)(2):	Azimuth. All sections of the solar zone located on steep-sloped roofs must be oriented between 90 degrees and 300 degrees of true north.
§ 110.10(b)(3A):	Shading. The solar zone must not contain any obstructions, including but not limited to: vents, chimneys, architectural features, and roof mounted equipment.
§ 110.10(b)(3B):	Shading. Any obstruction located on the roof or any other part of the building that projects above a solar zone must be located at least twice the distance, measured in the horizontal plane, of the height difference between the highest point of the obstruction and the horizontal projection of the nearest point of the solar zone, measured in the vertical plane.
§ 110.10(b)(4):	Structural Design Loads on Construction Documents. For areas of the roof designated as a solar zone, the structural design loads for roof dead load and roof live load must be clearly indicated on the construction documents.
§ 110.10(c):	Interconnection Pathways. The construction documents must indicate: a location reserved for inverters and metering equipment and a pathway reserved for routing of conduit from the solar zone to the point of interconnection with the electrical service; and for single family residences and central water-heating systems, a pathway reserved for routing plumbing from the solar zone to the water-heating system.
§ 110.10(d):	Documentation. A copy of the construction documents or a comparable document indicating the information from § 110.10(b) through § 110.10(c) must be provided to the occupant.
§ 110.10(e)(1):	Main Electrical Service Panel. The main electrical service panel must have a minimum busbar rating of 200 amps.
§ 110.10(e)(2):	Main Electrical Service Panel. The main electrical service panel must have a reserved space to allow for the installation of a double pole circuit breaker for a future solar electric installation. The reserved space must be permanently marked as "For Future Solar Electric."

HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY	
Project Name Fresno ADU Units_ADU-4(op1)	Date 4/6/2022
System Name HVAC System	Floor Area 633
ENGINEERING CHECKS	
Number of Systems	1
Heating System	
Output per System	12,000
Total Output (Btuh)	12,000
Output (Btuh/sqft)	19.0
Cooling System	
Output per System	18,000
Total Output (Btuh)	18,000
Total Output (Tons)	1.5
Total Output (Btuh/sqft)	28.4
Total Output (sqft/Ton)	422.0
Air System	
CFM per System	800
Airflow (cfm)	800
Airflow (cfm/sqft)	1.26
Airflow (cfm/Ton)	533.3
Outside Air (%)	0.0%
Outside Air (cfm/sqft)	0.00
Note: values above given at ARI conditions	
HEATING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Heating Peak)	
COOLING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Cooling Peak)	

HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY	
Project Name Fresno ADU Units_ADU-5(op1)	Date 4/6/2022
System Name HVAC System	Floor Area 633
ENGINEERING CHECKS	
Number of Systems	1
Heating System	
Output per System	12,000
Total Output (Btuh)	12,000
Output (Btuh/sqft)	19.0
Cooling System	
Output per System	18,000
Total Output (Btuh)	18,000
Total Output (Tons)	1.5
Total Output (Btuh/sqft)	28.4
Total Output (sqft/Ton)	422.0
Air System	
CFM per System	800
Airflow (cfm)	800
Airflow (cfm/sqft)	1.26
Airflow (cfm/Ton)	533.3
Outside Air (%)	0.0%
Outside Air (cfm/sqft)	0.00
Note: values above given at ARI conditions	
HEATING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Heating Peak)	
COOLING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Cooling Peak)	

HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY	
Project Name Fresno ADU Units_ADU-2(op1)	Date 4/6/2022
System Name HVAC System	Floor Area 514
ENGINEERING CHECKS	
Number of Systems	1
Heating System	
Output per System	12,000
Total Output (Btuh)	12,000
Output (Btuh/sqft)	23.3
Cooling System	
Output per System	18,000
Total Output (Btuh)	18,000
Total Output (Tons)	1.5
Total Output (Btuh/sqft)	35.0
Total Output (sqft/Ton)	342.7
Air System	
CFM per System	800
Airflow (cfm)	800
Airflow (cfm/sqft)	1.56
Airflow (cfm/Ton)	533.3
Outside Air (%)	0.0%
Outside Air (cfm/sqft)	0.00
Note: values above given at ARI conditions	
HEATING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Heating Peak)	
COOLING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Cooling Peak)	

HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY	
Project Name Fresno ADU Units_ADU-3(op1)	Date 4/6/2022
System Name HVAC System	Floor Area 633
ENGINEERING CHECKS	
Number of Systems	1
Heating System	
Output per System	12,000
Total Output (Btuh)	12,000
Output (Btuh/sqft)	19.0
Cooling System	
Output per System	18,000
Total Output (Btuh)	18,000
Total Output (Tons)	1.5
Total Output (Btuh/sqft)	28.4
Total Output (sqft/Ton)	422.0
Air System	
CFM per System	800
Airflow (cfm)	800
Airflow (cfm/sqft)	1.26
Airflow (cfm/Ton)	533.3
Outside Air (%)	0.0%
Outside Air (cfm/sqft)	0.00
Note: values above given at ARI conditions	
HEATING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Heating Peak)	
COOLING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Cooling Peak)	

T24 PREPARED BY:

www.getTitle24.com

vi@chitit24.com

PHONE (714) 888-4736

TITLE 24 MANDATORY MEASURES

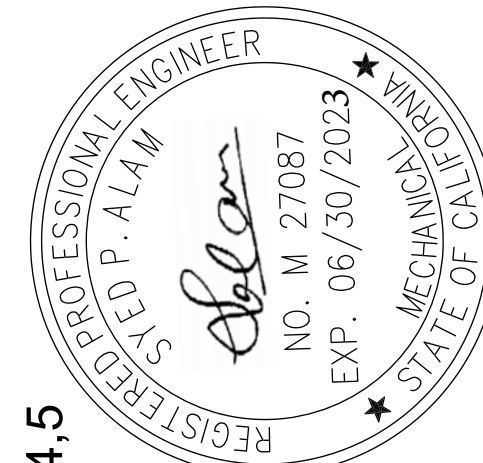
SHEET 2 OF 2

DATE: 4/6/2022

Fresno ADU Units_ADU-1,2,3,4,5

ADDRESS: 2600 Fresno St.

Fresno, CA 93721



MM-2

MECHANICAL SPECIFICATIONS
<p>PROVIDE EQUIPMENT INDICATED ON THE DRAWINGS, AND AS REQUIRED FOR A COMPLETE FUNCTIONING SYSTEM.</p> <p>DEFINITIONS: FURNISH MEANS TO SUPPLY AND DELIVER TO PROJECT SITE, READY FOR INSTALLATION. INSTALL MEANS TO PLACE IN POSITION AND MAKE CONNECTIONS FOR SERVICE OR USE. PROVIDE MEANS TO FURNISH AND INSTALL, COMPLETE AND READY FOR INTENDED USE.</p> <p>WARRANTY: PROVIDE LABOR AND MATERIALS TO REPAIR OR REPLACE DEFECTIVE PARTS AND MATERIALS AS REQUIRED FOR ONE YEAR AFTER SUBSTANTIAL COMPLETION OR OWNER ACCEPTANCE OF THE COMPLETED PROJECT. PROVIDE A SEPARATE LINE ITEM DEDUCT AMOUNT ON THE PROPOSAL FORM TO DELETE WARRANTY SERVICE, AT THE OWNER'S OPTION.</p> <p>PROVIDE OPERATION MANUALS, MAINTENANCE MANUALS AND SCHEMATICS FOR ALL MECHANICAL EQUIPMENT INSTALLED.</p> <p>COORDINATION: COORDINATE WITH THE WORK OF OTHER SECTIONS, EQUIPMENT FURNISHED BY OTHERS, REQUIREMENTS OF THE OWNER, AND WITH THE CONSTRAINTS OF THE EXISTING CONDITIONS OF THE PROJECT SITE.</p> <p>ROOF PENETRATIONS SHALL COMPLY WITH "SMACNA" AND "NRCA" STANDARDS, AND WITH THE REQUIREMENTS OF THE EXISTING ROOFING WARRANTY, IF APPLICABLE. DO NOT PERFORM ROOFING PENETRATIONS IN A MANNER WHICH WOULD VOID OR OTHERWISE LIMIT THE EXISTING ROOF WARRANTY.</p> <p>DUCT DIMENSIONS: UNLESS OTHERWISE NOTED, DUCT DIMENSIONS ON THE DRAWINGS ARE INSIDE CLEAR DIMENSIONS.</p> <p>SHEET METAL DUCTWORK: PROVIDE SHEET METAL DUCTWORK FABRICATED AND INSTALLED IN ACCORDANCE WITH ASHRAE AND SMACNA STANDARDS, FOR 1" W.G. PRESSURE CLASS. SEAL CLASS "A": SHEET METAL SHALL BE GALVANIZED SHEET STEEL OF LOCK FORMING QUALITY, WITH G90 ZINC COATING. SHEET STEEL SHALL COMPLY WITH ASTM A653 STANDARD SPECIFICATION FOR STEEL SHEET METAL, ZINC COATED (GALVANIZED) OR ZINC-IRON ALLOY-COATED (GALVANNEALED) BY THE HOT DIP PROCESS, AND A924 STANDARD SPECIFICATION FOR GENERAL REQUIREMENTS FOR SHEET, METALLIC-COATED BY THE HOT DIP PROCESS. ALL ANGLE IRON USED FOR SUPPORT SHALL BE GALVANIZED. CONNECTIONS TO WALLS OR FLOOR SHALL BE AIR TIGHT WITH ANGLE IRON AND CAULKING. SEAL ALL DUCT SEAMS, TRANSVERSE AND LONGITUDINAL, AIR TIGHT. PROVIDE TURNING VANES AT ALL 90° ELBOWS.</p> <p>TRAPEZE DUCT HANGERS: PROVIDE MINIMUM 1" X 2" X 1" X 18 GAUGE CHANNELS WITH MINIMUM 1" X 18 GAUGE STRAPS TO SUPPORT DUCT.</p> <p>ROUND SHEET METAL DUCT: PROVIDE SPIRAL SEAM (ALL SIZES) OR SNAP LOCK (DUCT SIZES UP TO 10") GALVANIZED STEEL COMPLYING WITH SMACNA STANDARDS. SPIRAL SEAM DUCTWORK SHALL HAVE SMACNA SEAM TYPE RL-1.</p> <p>FIBER GLASS DUCT BOARD IS AN ACCEPTABLE ALTERNATIVE IF APPROVED BY OWNER AND THE LOCAL BUILDING CODE OFFICIAL. PRODUCT AND INSTALLATION MUST MEET NAIMA STANDARDS AND OTHER APPLICABLE CODES AND REGULATIONS.</p> <p>EXPPOSED DUCTWORK: EXPPOSED DUCTWORK SHALL BE CLEANED OF DEBRIS AND OIL, THEN WIPE DOWN WITH VINEGAR OR OTHER SURFACE PREPARING CHEMICAL TO PREPARE DUCT FOR PAINT.</p> <p>DUCT SEALANT: PROVIDE POLYMERIC RUBBER TYPE SEALANT FOR USE ON BOTH INTERIOR LOCATED DUCTWORK AND DUCTWORK EXPPOSED TO OUTDOOR CONDITIONS. SEALER SHALL HAVE HIGH BONDING STRENGTH FOR SURE, FIRST TIME SEALING OF JOINTS IN LOW, MEDIUM, AND HIGH PRESSURE DUCT SYSTEMS. SEALER SHALL BE HIGH IN SOLID CONTENT. PROVIDE A TWO PART TAPE SEALING SYSTEM, CONSISTING OF WOVEN FIBER TAPE IMPREGNATED WITH A GYPSUM MINERAL COMPOUND, AND A MODIFIED ACRYLIC/SILICONE ACTIVATOR THAT REACTS EXOTHERMICALLY WITH THE TAPE. TWO PART TAPE SEALING SYSTEM MUST BE RATED FOR BOTH INDOOR AND OUTDOOR APPLICATION. TAPE SHALL NOT CONTAIN ASBESTOS.</p> <p>DUCT INSULATION: MATERIAL FOR SUPPLY AND RETURN AIR DUCT ABOVE CEILING INSIDE THE BUILDING SHALL HAVE THE EQUIVALENT THERMAL RESISTANCE OF MINIMUM R-6. THE REQUIRED R VALUES ARE FOR INSTALLED INSULATION WITH 25% COMPRESSION AT THE CORNERS. PROVIDE PINS AND WASHERS IN ACCORDANCE WITH SMACNA REQUIREMENTS AND AS REQUIRED TO PREVENT INSULATION FROM SAGGING. PROVIDE ADEQUATE INSULATION AT THE SUPPLY AIR DIFFUSERS TO PREVENT CONDENSATION.</p> <p>FLEXIBLE DUCT : UL #181 LISTED, CLASS 1, AND CONTAIN A 0.1 PERM RATED POLYETHYLENE INNER LINER, WITH R-8 FIBERGLASS INSULATION. FLEXIBLE DUCTS SHALL BE SECURED TO RIGID SHEET METAL COLLARS AND AIR DIFFUSERS WITH NYLON TIES OR STAINLESS STEEL WORM GEAR STRAPS. SEAL ALL CONNECTIONS AND JOINTS AIRTIGHT. SUPPORT FLEXIBLE DUCTS FROM THE BUILDINGS STRUCTURE WITH MINIMUM 1" WIDE, 18 GAUGE, GALVANIZED STEEL STRAP AT MAXIMUM 4'-0" CENTERS. PROVIDE 4" WIDE SHEET METAL SADDLES AT EACH SUPPORT EACH STRAP. SAG OF FLEXIBLE DUCT BETWEEN HANGERS SHALL NOT EXCEED 1/2" PER FOOT OF SUPPORT SPACING. RADIUS FOR TURNS OF FLEXIBLE DUCTS SHALL BE A MINIMUM OF ONE DUCT DIAMETER. FLEXIBLE DUCT RUNS SHALL NOT EXCEED 10'-0" IN LENGTH AND SHALL BE THE SAME SIZE AS THE DIFFUSER NECK CONNECTION.</p> <p>ROUND VOLUME DAMPERS: PROVIDE MINIMUM 20 GAUGE GALVANIZED STEEL FRAME AND BLADES. MINIMUM 3/8" SQUARE STEEL AXLE, MOLDED SYNTHETIC BEARINGS, WITH LOCKING POSITION REGULATOR. REGULATOR SHALL BE POSITIONED WITH SHEET METAL BRACKET BEYOND DUCT COVERING, WHERE POSITIONING REGULATOR IS NOT ACCESSIBLE, PROVIDE COUPLING AND EXTENSION ROD WITH REGULATOR FOR CEILING OR WALL INSTALLATION, AS REQUIRED.</p> <p>RECTANGULAR VOLUME DAMPERS: PROVIDE MINIMUM 16 GAUGE GALVANIZED STEEL CHANNEL FRAME, 16 GAUGE GALVANIZED STEEL BLADES, MINIMUM 1/2" HEXAGONAL AXLE, BOLDED SYNTHETIC BEARINGS, WITH 3/8" SQUARE PLATED STEEL CONTROL SHAFT. LINKAGES SHALL BE CONCEALED IN THE FRAME. OPERATING SHAFT SHALL EXTEND BEYOND FRAME AND DUCT TO A LOCKING QUADRANT WITH ADJUSTABLE LEVER. MAXIMUM BLADE WIDTH SHALL NOT EXCEED 6".</p>

<p>DUCT TURNING VANES: PROVIDE FABRICATED TURNING VANES AND VANE RUNNERS, CONSTRUCTED IN ACCORDANCE WITH SMACNA "HVAC DUCT CONSTRUCTION STANDARDS". PROVIDE TURNING VANES CONSTRUCTED OF CURVED BLADES, SUPPORTED WITH BARS PERPENDICULAR TO BLADES, AND SET INTO SIDE STRIPS SUITABLE FOR MOUNTING IN DUCTWORK. FOLLOW SMACNA GUIDELINES FOR SPACING, SUPPORT, AND CONSTRUCTION. ALL BLADES SHALL BE DOUBLE THICKNESS AIRFOIL TYPE.</p> <p>FLEXIBLE DUCT CONNECTORS: PROVIDE U.L. LABELED 30 OUNCE NEOPRENE COATED FIBERGLASS FABRIC DUCT CONNECTORS.</p> <p>DUCT ACCESS DOORS: PROVIDE HINGED ACCESS DOORS IN DUCTWORK WHERE REQUIRED FOR ACCESS TO EQUIPMENT. PROVIDE INSULATED ACCESS DOORS FOR INSULATED DUCTWORK. CONSTRUCT OF SAME OR THICKER GAUGE SHEET METAL AS DUCT IN WHICH IT IS INSTALLED. PROVIDE FLUSH FRAMES FOR UN-INSULATED DUCTS, AND EXTENDED FRAMES FOR EXTERNALLY INSULATED DUCTS. PROVIDE CONTINUOUS HINGE ON ONE SIDE, WITH ONE HANDLE-TYPE LATCH FOR ACCESS DOORS 12" HIGH AND SMALLER, AND TWO HANDLE-TYPE LATCHES FOR LARGER ACCESS DOORS.</p> <p>HVAC CONTROL SYSTEM: PROVIDE ALL THE NECESSARY CONTROLS AND CONTROL WIRING IN CONDUIT COMPATIBLE TO SYSTEMS SHOWN ON EQUIPMENT SCHEDULE M2.0.</p> <p>PROGRAMMABLE THERMOSTAT FOR EACH SYSTEM SHALL ENABLE THE SUPPLY FAN AND CYCLE THE COOLING AND HEATING STAGES TO MAINTAIN SPACE SET-POINT. SUPPLY FAN RUNS CONTINUOUSLY DURING THE OCCUPIED MODE.</p> <p>EACH THERMOSTAT SHALL HAVE A DEAD BAND OF AT LEAST 5 DEGREES (ADJ.) WITHIN WHICH THE SUPPLY OF HEATING AND COOLING IS SHUT OFF.</p> <p>EACH THERMOSTAT SHALL HAVE SETBACK AND SET-UP CAPABILITY DURING THE UNOCCUPIED MODE. FOR SETBACK, THE HEATING SHALL RESTART AND TEMPORARILY OPERATE ACCORDING TO A SET-POINT ADJUSTABLE DOWN TO 55 DEGREES. FOR SET-UP, THE COOLING SHALL RESTART AND TEMPORARILY OPERATE ACCORDING TO A SET-POINT ADJUSTABLE UP TO 85 DEGREES OR TO PREVENT HIGH SPACE HUMIDITY LEVELS.</p> <p>EACH SYSTEM SHALL BE PROVIDED WITH A MOTORIZED OUTSIDE AIR DAMPER THAT WILL AUTOMATICALLY SHUT WHEN THE SYSTEM OR SPACES SERVED ARE NOT IN USE. VENTILATION OUTSIDE AIR DAMPERS SHALL BE CAPABLE OF AUTOMATICALLY CLOSING DURING PREOCCUPANCY BUILDING WARM-UP, COOL DOWN, AND SETBACK, EXCEPT WHEN VENTILATION REDUCES ENERGY COSTS (e.g., NIGHT PURGE) OR WHEN VENTILATION MUST BE SUPPLIED TO MEET CODE REQUIREMENTS.</p> <p>COMMISSIONING/VERIFICATION: HVAC CONTROL SYSTEM SHALL BE TESTED TO ENSURE THAT CONTROL ELEMENTS ARE CALIBRATED, ADJUSTED, AND IN PROPER WORKING CONDITION, AND THAT THE SYSTEM MEETS THE DESIGN REQUIREMENTS.</p> <p>TEST AND BALANCE: CONTRACT DIRECTLY A THIRD PARTY TO PROVIDE TEST AND BALANCE OF THE HVAC SYSTEM. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR SCHEDULING, TEST AND ADJUST ALL MECHANICAL SYSTEM AND EQUIPMENT TO ASSURE PROPER BALANCE AND OPERATION. PERFORM TESTS IN ACCORDANCE WITH NEBB PROCEDURAL STANDARDS-1999 OR AABC 2002, AND ASHRAE STANDARD 111. ELIMINATE NOISE AND VIBRATION, AND ASSURE PROPER FUNCTION OF CONTROLS. SUBMIT COMPLETED TEST AND BALANCE REPORT TO OWNER'S REPRESENTATIVE. BALANCING CONTRACTOR SHALL BE INDEPENDENT AND CERTIFIED WITH NEBB OR AABC. BALANCE ALL SYSTEMS WITHIN 5% OF AIR FLOW INDICATED ON DRAWINGS, AND REPORT ALL DISCREPANCIES TO THE HVAC CONTRACTOR FOR CORRECTION. MARK FINAL BALANCE POSITIONS ON DAMPERS WITH PERMANENT MARKER.</p> <p>COMPLETION REQUIREMENTS: THE CONTRACTOR SHALL PROVIDE, WITHIN 90 DAYS AFTER THE DATE OF SYSTEM ACCEPTANCE, RECORD DRAWINGS AND AN OPERATING AND MAINTENANCE MANUAL TO THE BUILDING OWNER OR THE DESIGNATED REPRESENTATIVE OF THE OWNER.</p> <p>THE RECORD DRAWING SHALL BE OF THE ACTUAL INSTALLATION AND INCLUDE AS A MINIMUM THE LOCATION AND PERFORMANCE DATA, ON EACH PIECE OF EQUIPMENT, GENERAL CONFIGURATION OF DUCT AND PIPE DISTRIBUTION SYSTEM INCLUDING SIZES, AND THE TERMINAL AIR OR WATER DESIGN FLOW RATES.</p> <p>THE OPERATING AND MAINTENANCE MANUALS SHALL BE IN ACCORDANCE WITH INDUSTRY-ACCEPTED STANDARDS AND SHALL INCLUDE, AT A MINIMUM, THE FOLLOWING: (A) SUBMITTAL DATA STATING EQUIPMENT SIZE AND SELECTED OPTIONS FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE; (B) OPERATION MANUALS AND MAINTENANCE MANUALS FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE, EXCEPT EQUIPMENT NOT FURNISHED AS PART OF THE PROJECT. REQUIRED ROUTINE MAINTENANCE ACTIONS SHALL BE CLEARLY IDENTIFIED; (C) NAMES AND ADDRESSES OF AT LEAST ONE SERVICE AGENCY; (D) HVAC CONTROLS SYSTEMS MAINTENANCE AND CALIBRATION INFORMATION, INCLUDING WIRING DIAGRAMS, SCHEMATICS, AND CONTROL SYSTEM SEQUENCE DESCRIPTIONS, DESIRED OR FIELD-DETERMINED SET-POINTS SHALL BE PERMANENTLY RECORDED ON CONTROL DRAWINGS AT CONTROL DEVICES OR, FOR DIGITAL CONTROL SYSTEMS, IN PROGRAMMING COMMENTS; (E) A COMPLETE NARRATIVE OF HOW EACH SYSTEM EACH SYSTEM IS INTENDED TO OPERATE, INCLUDING SET-POINTS.</p>
--

HVAC GENERAL NOTES
<p>1. THE INTENT OF THESE PLANS AND SPECIFICATIONS IS TO INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND SERVICES NECESSARY TO FURNISH, INSTALL, TEST, AND ADJUST A COMPLETE WORKABLE HEATING, VENTILATION, AND AIR CONDITIONING SYSTEM AS SHOWN, PRESCRIBED, OR REASONABLY IMPLIED BUT NOT LIMITED TO THAT EXPLICITLY INDICATED IN THE CONTRACT DOCUMENTS, BUT NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF THE INTENT THEREOF.</p> <p>2. THE ENTIRE INSTALLATION SHALL CONFORM TO THE APPLICABLE CODES AND REGULATIONS REQUIRED BY AUTHORITIES HAVING JURISDICTION. IN THE EVENT OF CONFLICT BETWEEN SPECIFICATIONS, CODES, AND REGULATIONS, THE MORE RESTRICTIVE SHALL APPLY.</p> <p>3. DRAWINGS FOR HVAC WORK ARE DIAGRAMATIC SHOWING THE GENERAL LOCATION, TYPE, LAYOUT, AND EQUIPMENT REQUIRED. THE DRAWINGS SHALL NOT BE SCALED FOR EXACT MEASUREMENT, REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS. PROVIDE ALL DUCTWORK, MATERIALS, CONNECTIONS, ACCESSORIES, FITTINGS, OFFSETS, TRANSITIONS, DAMPERS AS REQUIRED FOR A COMPLETE WORKABLE SYSTEM.</p> <p>4. ALL EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND APPROVED LISTING. ALL EQUIPMENT, PIPING AND SUPPORTS SHALL BE RESTRAINED IN ACCORDANCE WITH THE LATEST EDITION OF THE "GUIDILNES FOR SEISMIC RESTRAINTS OF MECHANICAL SYSTEMS AND PLUMBING PIPING SYSTEMS" BY THE SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION (SMACNA). ALL EQUIPMENT SHALL BE ANCHORED TO RESIST THE LATERAL FORCE REQUIREMENTS OF CHAPTER 16 OF THE 2012 INTERNATIONAL BUILDING CODE.</p> <p>5. COORDINATE THE INSTALLATION OF THE HVAC SYSTEM WITH ALL OTHER TRADES PRIOR TO FABRICATION OR INSTALLATION. COORDINATE THE LOCATIONS OF PENETRATIONS AND FINAL LOCATION OF ALL EQUIPMENT WITH THE GENERAL CONTRACTOR. PROVIDE EQUIPMENT WEIGHTS, EQUIPMENT DIMENSIONS, PLATFORM SIZES & LOCATIONS, CURB SIZES & LOCATIONS, CONCRETE PAD SIZES AND LOCATIONS AS REQUIRED. COORDINATE LOCATIONS OF GAS & CONDENSATE LINES WITH PLUMBING CONTRACTOR. COORDINATE LOCATIONS OF POWER, DISCONNECTS, AND CONTROL CONDUIT WITH THE ELECTRICAL CONTRACTOR. COORDINATE LOCATIONS OF ALL DIFFUSERS, REGISTERS, AND GRILLES WITH ARCHITECTURAL PLANS, ELECTRICAL LIGHTING PLANS AND ARCHITECTURAL ELEVATIONS.</p> <p>6. DETAILS FOR EQUIPMENT PADS, PLATFORMS, AND FLASHINGS SHALL BE AS INDICATED BY THE ARCHITECTURAL/STRUCTURAL/CIVIL DRAWINGS, UNLESS NOTED OTHERWISE.</p> <p>7. ALL EQUIPMENT, DUCTS, PIPING, SUPPORTS, AND OTHER DEVICES OUTSIDE OF THE BUILDING OR EXPOSED TO WEATHER, SHALL BE COMPLETELY WEATHER-PROOFED.</p> <p>8. OUTSIDE AIR INTAKES SHALL BE AT LEAST 10 FT. AWAY OR 3 FT. BELOW ANY VENT OR EXHAUST DISCHARGE.</p> <p>9. ALL DUCT SIZES ARE CLEAR INSIDE DIMENSIONS. DUCTWORK SHALL BE CONSTRUCTED, ERECTED, INSULATED AND TESTED IN ACCORDANCE CHAPTER 6 OF THE 2012 INTERNATIONAL MECHANICAL CODE.</p> <p>10. ALL EXHAUST FANS SHALL BE EQUIPED WITH A BACK DRAFT DAMPER.</p> <p>11. DUCT AND AIR TRANSFER PENETRATIONS THRU BUILDING ASSEMBLIES REQUIRING PROTECTION SHALL BE PROTECTED WITH FIRE DAMPERS, SMOKE DAMPERS, COMBINATION SMOKE/FIRE DAMPERS AND CEILING RADIATION DAMPERS IN ACCORDANCE WITH SECTION 607 OF THE INTERNATIONAL MECHANICAL CODE. DUCTS NOT REQUIRING DAMPERS SHALL COMPLY WITH SECTION 714 & 717 OF THE 2019 CALIFORNIA BUILDING CODE.</p> <p>12. INSTALL SMOKED DETECTORS AND PROVIDE FOR SMOKE DETECTION AND AUTOMATIC SHUT-OFF OF ALL AIR HANDLING EQUIPMENT IN ACCORDANCE WITH SECTION 606 OF THE 2019 CALIFORNIA MECHANICAL CODE.</p> <p>13. UNLESS NOTED OTHERWISE, ALL LINE VOLTAGE WIRING, CONDUIT, FINAL CONNECTIONS, DISCONNECTS, STARTERS, AND OVER CURRENT PROTECTION DEVICES SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR AS INDICATED ON THESE MECHANICAL DRAWINGS AND/OR ELECTRICAL DRAWINGS AND/OR ELECTRICAL SECTION OF THE SPECIFICATIONS.</p> <p>14. INSTALL ALL LOW VOLTAGE HVAC CONTROL WIRE AND DEVICES PER PLAN. ALL WIRE SHALL BE IN CONDUIT PROVIDED AND INSTALLED BY THE ELECTRICAL CONTRACTOR UNLESS NOTED OTHERWISE.</p> <p>15. PROVIDE OWNER WITH THREE COPIES OF A CERTIFIED AIR BALANCE REPORT PREPARED IN BY A THIRD PARTY CERTIFIED BY THE AABC OR NEBB. TEST, ADJUST AND BALANCE THE HVAC SYSTEM IN ACCORDANCE WITH AABC OR NEBB PROCEDURES. PROVIDE START-UP/TEST REPORTS FOR ALL AIR HANDLING EQUIPMENT, FANS, AND REFRIGERATION EQUIPMENT. TEST AND VERIFY PROPER OPERATION OF ALL MAKE-UP AIR/EXHAUST AIR INTERLOCK SYSTEMS AND THER SEQUENCES OF OPERATION. BALANCE ALL AIR FLOWS WITHIN 5% OF DESIGN VALUES. PERMANENTLY MARK BALANCE POSITION OF ALL REGULATING DEVICES.</p> <p>16. PROVIDE OWNER WITH THREE SETS OF AS-BUILT PLANS AND OPERATIONS AND MAINTENANCE MANUALS. CLEARLY IDENTIFY ALL EQUIPMENT WITH PERMANENT PLASTIC OR METAL LABELS/TAGS (PEN MARKING NOT ACCEPTABLE).</p> <p>17. PROVIDE ONE YEAR WARRANTY ON ALL LABOR, PARTS AND MATERIALS.</p> <p>18. ANY CHANGE OR DEVIATION FROM THESE PLANS OR SPECIFICATIONS SHALL REQUIRE THE WRITTEN APPROVAL OF THE ENGINEER PRIOR TO COMMENCEMENT OF SUCH WORK.</p> <p>19.0</p> <p>a) DUCTS FOR DEMAND CONTROLLED VENTILATION SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH THE FAN MANUFACTURER'S INSTALLATION INSTRUCTIONS. THE PROVISIONS ASHRAE 62.2, TABLE 5.3, OR THE AIRFLOW SHALL BE MEASURED AS REQUIRED BY AND IN COMPLIANCE WITH ASHRAE 62.2, 5.4.</p> <p>b) DUCTS FOR KITCHEN COOKTOPS OR RANGES SHALL BE SHOWN OF METAL WITH A SMOOTH INTERIOR. [CMC 504.3].</p> <p>1) IDENTIFY THE DETAILED REQUIREMENTS OF CMC DRYER DUCTS. SPECIFY--</p> <p>a) DUCTS FOR DOMESTIC CLOTHES DRYERS SHALL BE INSTALLED IN ACCORDANCE WITH CMC 504.0.</p> <p>b) DUCTS FOR DOMESTIC CLOTHES DRYERS SHALL BE RIGID METALLIC DUCTS WITH A MINIMUM MILL THICKNESS OF 14 (0.016-INCIN). SHALL HAVE A MINIMUM 4-INCH DIAMETER AND A SMOOTH INTERIOR. THE COMBINED HORIZONTAL AND VERTICAL LENGTH OF THE DUCTS OF THE DUCTS SHALL BE 14-FEET, WHICH SHALL BE REDUCED BY 2-FEET FOR EVERY 90-DEGREE ELBOW IN EXCESS OF TWO ELBOWS.</p> <p>c) LISTED CLOTHES DRYER TRANSITION DUCTS NOT MORE THAN 6-FEET IN LENGTH SHALL BE PERMITTED TO CONNECT THE DRYER TO THE EXHAUST DUCTS AS LONG AS THEY ARE NOT CONCEALED WITHIN CONSTRUCTION, AND THEY ARE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.</p>

LEGEND		
		DUCT WORK (WIDTHxDEPTH)
		LINED DUCT WORK (WIDTHxDEPTH DIMENSIONS ARE FOR I.D.)
		SUPPLY DUCT, SECTION
		RETURN DUCT, SECTION
		EXHAUST DUCT, SECTION
		RISE OR DROP IN DIRECTION OF AIR FLOW
	FLEX. CONN.	FLEXIBLE CONNECTION
		DUCT TRANSITION, ROUND AND RECTANGULAR
		SPLITTER DAMPER
		EXTRACTOR AT BRANCH DUCT
		TURNING VANES
		FLEXIBLE DUCT
		SINGLE LINE DUCT WORK
	AVD	AUTOMATIC VOLUME DAMPER
	MVD	MANUAL VOLUME DAMPER
	BDD	BACKDRAFT DAMPER
	MD	MODULATING DAMPER
	AFD	AUTOMATIC FIRE DAMPER
	AD	ACCESS DOOR
	SD	SUPPLY DIFFUSER
	RD	RETURN DIFFUSER
	ER	EXHAUST REGISTER
	SWR	SIDE WALL SUPPLY REGISTER
	SWE	SIDE WALL RETURN OR EXHAUST
	LD	LINEAR DIFFUSER
	DL	DOOR LOUVER
	UC	UNDER CUT DOOR
	VAV	VARIABLE AIR VOLUME
	T	THERMOSTAT
	S	DUCT SMOKE DETECTOR
SPECIAL NOTICE TO CONTRACTORS		
<p>1. ALL CONTRACTORS (GENERAL CONTRACTOR AND SUB-CONTRACTORS) BIDDING THIS PROJECT ARE REQUIRED TO VISIT THE JOB SITE AND VERIFY THE EXISTING CONDITIONS PRIOR TO SUBMITTING THEIR BID. CONTRACTORS ARE TO CAREFULLY REVIEW ALL CONSTRUCTION DOCUMENTS AND NOTE ANY DISCREPANCIES BETWEEN THE CONSTRUCTION DOCUMENTS AND THE CONDITIONS OBSERVED AT THE JOB SITE PRIOR TO SUBMISSION OF ANY BID. THE BUILDING OWNER REPRESENTATIVE LISTED BELOW MAY BE CONTACTED FOR ACCESS TO THE JOB SITE.</p> <p>2. CONTRACTORS ARE RESPONSIBLE FOR VERIFYING THE LOCATION AND CONDITION OF ALL POINTS OF CONNECTION, LOCATION AND CONDITION OF ALL BUILDING (ROOF/FLOOR/CEILING) PENETRATIONS, LOCATION AND CONDITION OF ALL UTILITIES AND BUILDING SYSTEMS INCLUDING, BUT NOT LIMITED TO, GAS, WATER, SEWER, VENT, ELECTRICAL, BUILDING MECHANICAL SYSTEMS, DUCT CONNECTIONS, EXHAUST/OUTSIDE AIR CONNECTIONS, SECURITY, FIRE ALARM, DATA, AND PHONE PRIOR TO SUBMISSION OF THEIR BID.</p> <p>3. ANY DISCREPANCIES BETWEEN THE CONSTRUCTION DOCUMENTS AND THE CONDITIONS OBSERVED SHALL BE BROUGHT TO THE ATTENTION, IN WRITING, TO THE ARCHITECT AND/OR ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.</p> <p>4. NO WORK SHALL BE DONE ON ANY PART OF THE BUILDING BEYOND THE POINT INDICATED IN EACH SUCCESSIVE INSPECTION WITHOUT FIRST OBTAINING THE WRITTEN APPROVAL OF THE CODE OFFICIAL. NO CONSTRUCTION SHALL BE CONCEALED WITHOUT BEING INSPECTED AND APPROVED.</p>		

InnoDez

Address: Foxbrough pl
Pleasanton, CA. 94566

Phone: (424) 414-0997

Web site: www.innodez.com

Email: hello@innodez.com

CLIENT:

ADDRESS:

CITY OF FRESNO CALIFORNIA

CONFIDENTIALITY STATEMENT:

ALL DRAWINGS AND WRITTEN MATERIALS

APPEARING HEREIN CONSTITUTE THE

ORIGINAL AND UNPUBLISHED WORK OF THE

DESIGNER AND THE SAME MAY NOT BE

DUPLICATED, USED OR DISCLOSED WITHOUT

CONSENT OF THE DESIGNER.

NOTES:

1. ALL DIMENSIONS HEREIN ARE IN IMPERIAL UNITS UNLESS STATED OTHERWISE.

2. THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT DESIGNER,

ENGINEER OR SPECIALIST DRAWINGS AND SPECIFICATIONS.

3. THE CONTRACTOR MUST CHECK ALL DIMENSION AT SITE BEFORE COMMENCING WORK.

4. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY TEMPORARY SUPPORT TO THE BUILDING AND ANY ADJACENT STRUCTURES.



REV.	NO.	DESCRIPTION	DATE	BY
02		FOR APPROVAL	06.22	MN
01		FOR APPROVAL	03.22	MN
00		FOR APPROVAL	12.21	MN

PROJECT:

ADU PROGRAM

TITLE:

MECHANICAL SPECS,
LEGENDS & SYMBOLS

PROJ. NO.	PROJ. ENGR.	SCALE @ 24X36"
2104		NTS
DRAWING NO.		REV.
M - 0 . 0 0		2

SCHEDULE No. 1
HEAT PUMP - OUTDOOR UNIT

TAG	OU-02
SERVING	ADU-02
MANUFACTURER	CARRIER
OUTDOOR MODEL	38MGRQ18B-3
SEER	22.5
EER	12.5
MOTOR VOLT / PH / HZ	208/230 / 1 / 60
MINIMUM CIRCUIT AMPACITY	18 A
MAX OVERCURRENT DEVICE	25 A
COOLING / HEATING CAPACITY (BTU/H)	18,000 / 19,000
DIMENSION (W x H x D) INCHES	37 x 28 x 14.5

SCHEDULE No. 2

TAG	IU-02
LOCATION	CEILING LEVEL
MANUFACTURER	CARRIER
MODEL	40MBDQ12-003
MOTOR VOLT / PH / HZ	208 / 1 / 60
MINIMUM CIRCUIT AMPACITY	1.2 A
AIR FLOW (CFM) - MEDIUM SPEED	397.0
EXTERNAL STATIC PRESSURE (INCHES OF WATER)	0.40
TYPE	HORIZONTAL
RATED COOLING CAPACITY (BTU/H)	12,000
RATED HEATING CAPACITY (BTU/H)	12,000
DIMENSION (W x H x D) INCHES	28 x 8 x 20
WEIGHT (Lbs)	44.0

SCHEDULE No. 3
EXHAUST FAN SCHEDULE

TAG	ERV-01	KH-01
LOCATION	TOILET	KITCHEN
DESIGN SUPPLY VOLUME (CFM)	100	100
SELECT SUPPLY VOLUME (CFM)	100	100
DESIGN PRESSURE DROP (INCH W.C.)	0.100	0.250
SELECTED PRESSURE DROP (INCH W.C.)	0.100	0.250
ELECTRICAL (V / PH / HZ)	120 / 1 / 60	120 / 1 / 60
POWER (W)	81	15.4
RECOVERY EFFICIENCY / RPM	60%	1182
FAN TYPE	CEILING MOUNT	CEILING MOUNT
DRIVE TYPE	DIRECT DRIVE	DIRECT DRIVE
MANUFACTURER	PANASONIC - INTELLI-BALANCE	PANASONIC
MODEL	FV-10VE2	FV-0511KV2
SOUND RATING	1.0 SONE	
MINIMUM SUPPLY VOLUME (CFM)	53	

1. PROVIDE UL LISTING.
 2. PROVIDE ENERGY STAR COMPLIANCE.
 3. INTERLOCK WITH WALL SWITCH.
 4. PROVIDE MOTOR WITH THERMAL OVERLOADS.
 5. FOR THE ERV: PROVIDE A READILY ACCESSIBLE OVERRIDE CONTROL (SWITCH).
- The override control for the whole-building ventilation shall be properly labeled: "Whole House Ventilation Fan. This fan to remain ON at all times the house is occupied."

SCHEDULE No. 4

GRILLES, REGISTERS AND DIFFUSERS SCHEDULE

TYPE	SERVICE	MFR AND MODEL NO.	VOLUME DAMPER	FINISH	FRAME AND BORDER TYPE	MATERIAL	DESCRIPTION
ER	EXHAUST REGISTER	TITUS 350RS	OPPOSED BLADE DAMPER	WHITE ENAMEL	NOTE 1	STEEL	35" FIXED DEFLECTION REGISTER WITH BLADES PARALLEL TO SHORT DIMENSION 3/4" SPACING
R	RETURN GRILLE	TITUS 350R	----	WHITE ENAMEL	NOTE 1	STEEL	35" FIXED DEFLECTION GRILLE WITH BLADES IN HORIZONTAL POSITION 3/4" SPACING
SG	SUPPLY GRILLE	TITUS 300RS	----	WHITE ENAMEL	NOTE 1	STEEL	DOUBLE DEFLECTION GRILLE WITH FRONT BLADES PARALLEL TO SHORT DIMENSION 3/4" SPACING
TG	TRANSFER GRILLE	TITUS 350R	----	WHITE ENAMEL	NOTE 1	STEEL	35" FIXED DEFLECTION GRILLE WITH BLADES IN HORIZONTAL POSITION 3/4" SPACING

NOTE:
1. CONTRACTOR TO VERIFY CEILING TYPE AND PROVIDE PROPER FRAME AND BORDER TYPE.
TITUS RAPID MOUNT FRAME FOR GYP. BRD. APPLICATIONS.

SUPPLY GRILLE SIZE SCHEDULE - SG

CFM RANGE	FACE SIZE	DUCT SIZE
0 - 125	8"x8"	6"x6"
126 - 225	10"x10"	8"x8"
226 - 330	14"x8"	12"x6"
331 - 440	14"x10"	12"x8"
441 - 580	14"x12"	12"x10"

FACE SIZE TO BE SIZE SHOWN UNLESS OTHERWISE NOTED

DUCT SIZE TO BE SIZE SHOWN OR EQUIVALENT UNLESS OTHERWISE NOTED

DOOR SCHEDULE

TAG	TYPE	CFM	PR. DROP W.G.	MANUFACTURER MODEL
L-1	INTAKE AIR	50	0.03	RUSKIN ELF637SDX

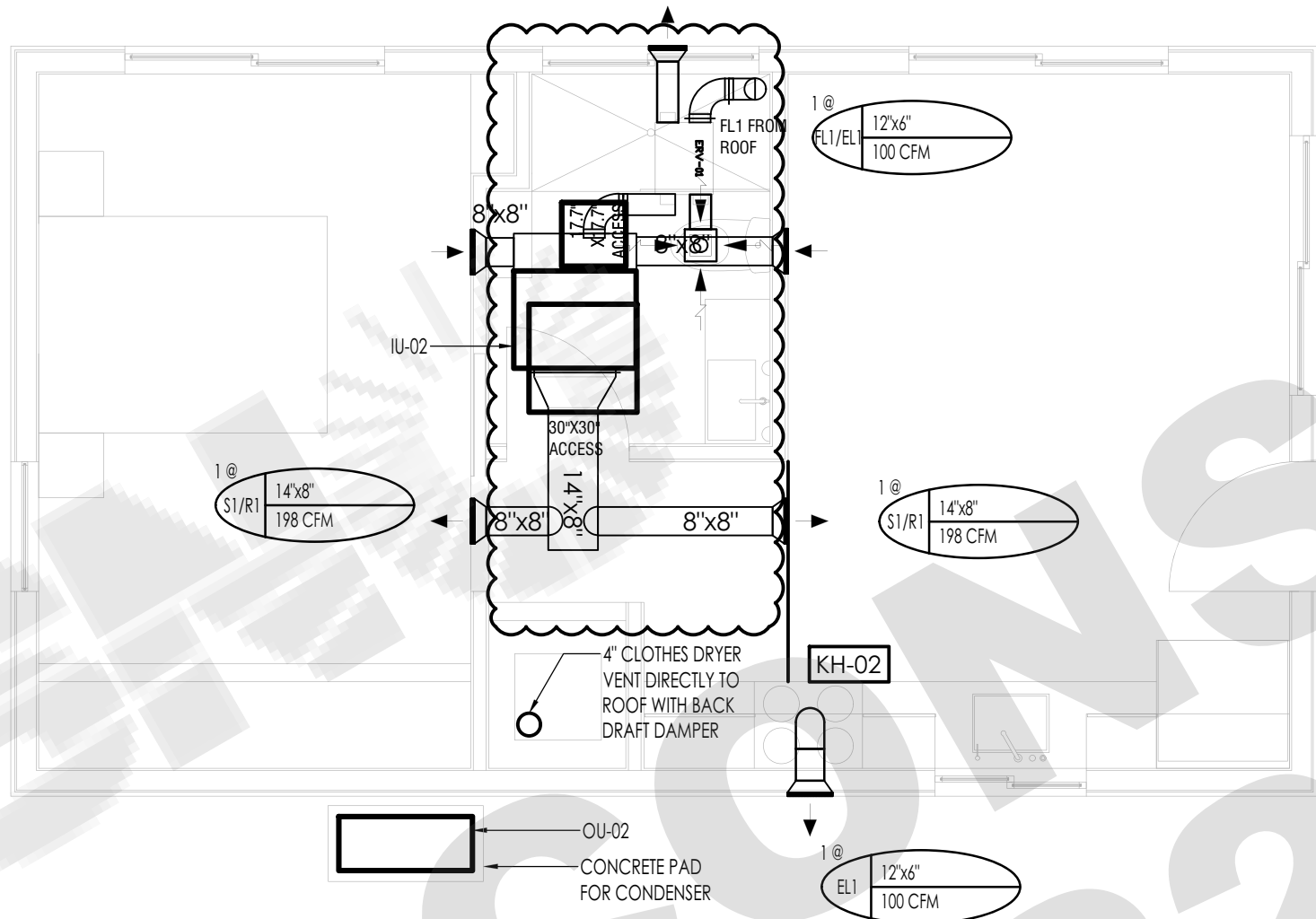
RETURN GRILLE SIZE SCHEDULE - R
TRANSFER GRILLE SIZE SCHEDULE - TG

CFM RANGE	FACE SIZE	DUCT SIZE
0 - 150	10"x8"	8"x6"
151 - 275	10"x10"	8"x8"
276 - 600	14"x12"	12"x10"
601 - 1100	24"x12"	14"x14"
1101 - 1750	24"x18"	16"x16"
1751 - 2000	24"x24"	18"x16"

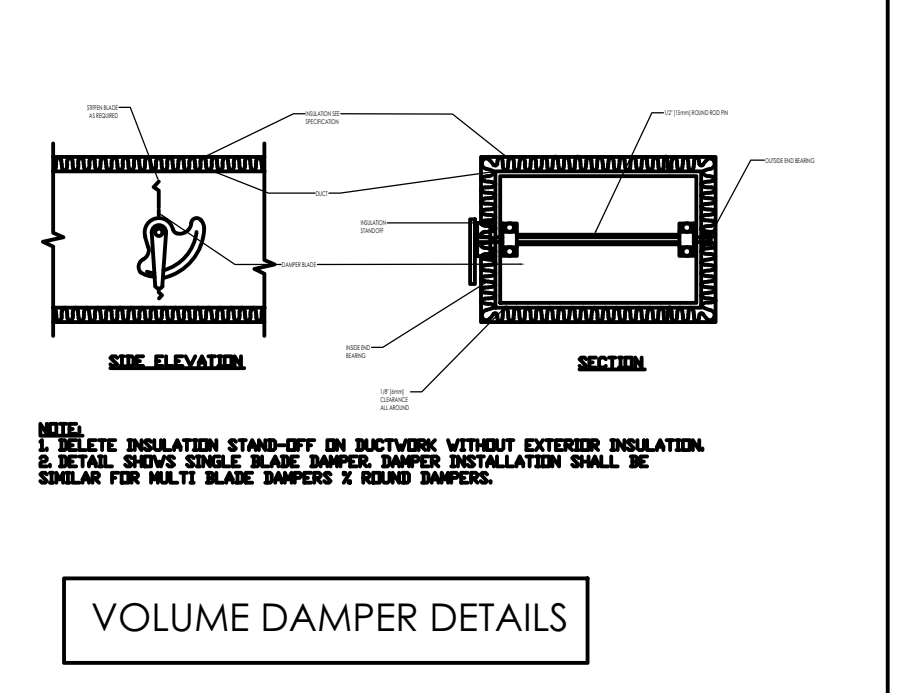
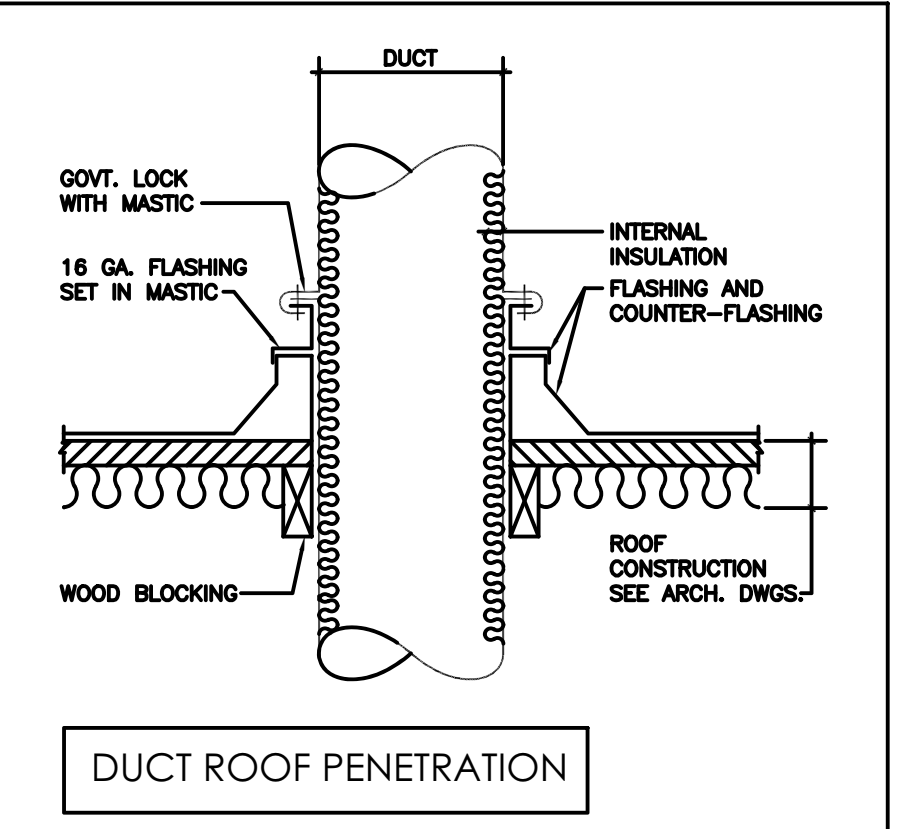
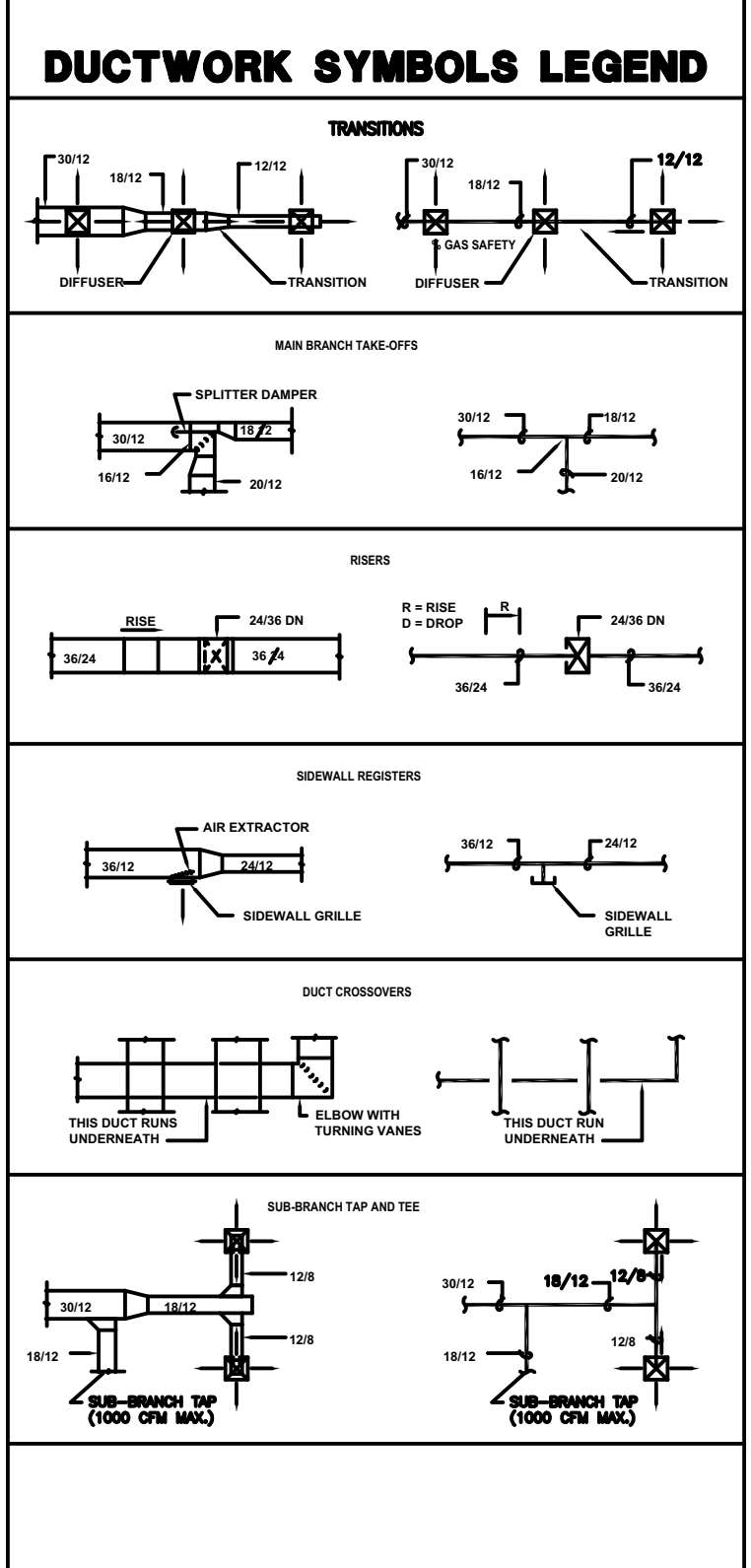
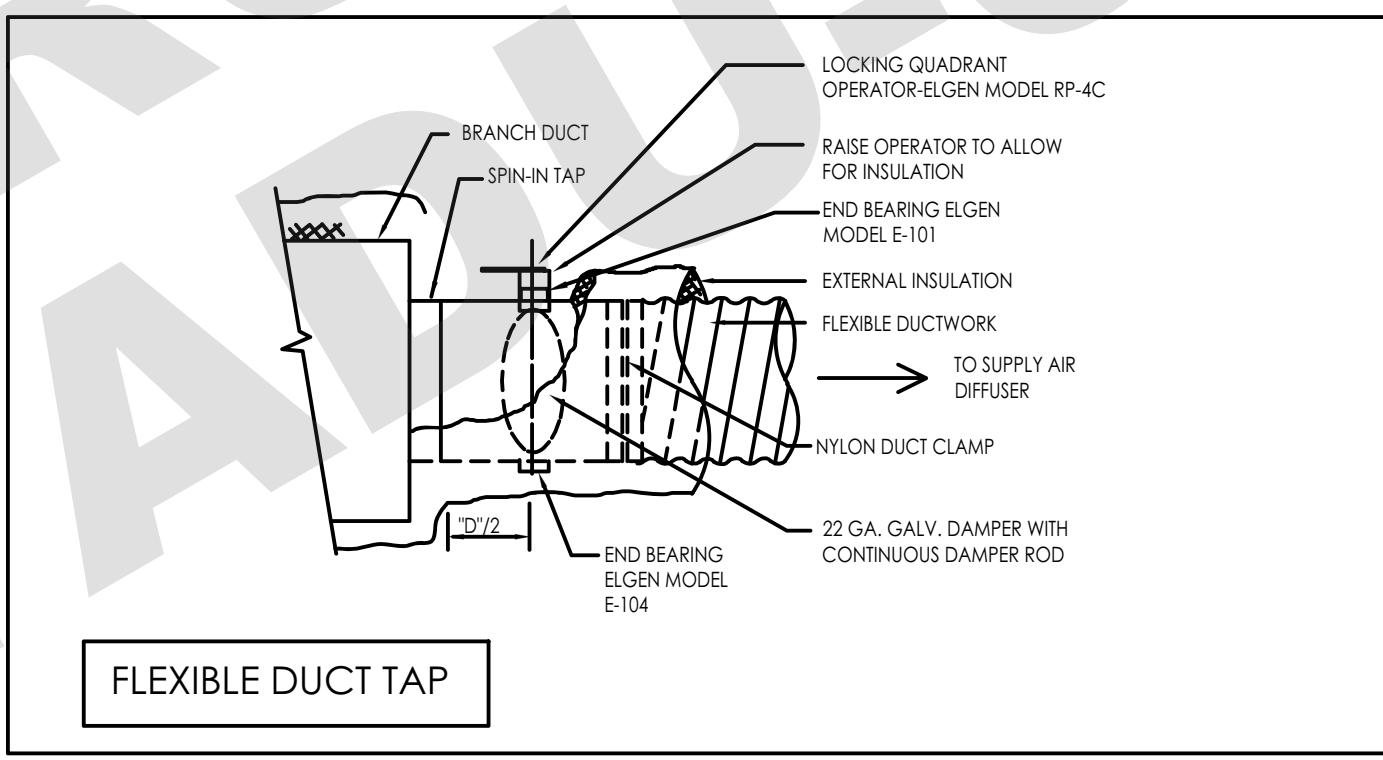
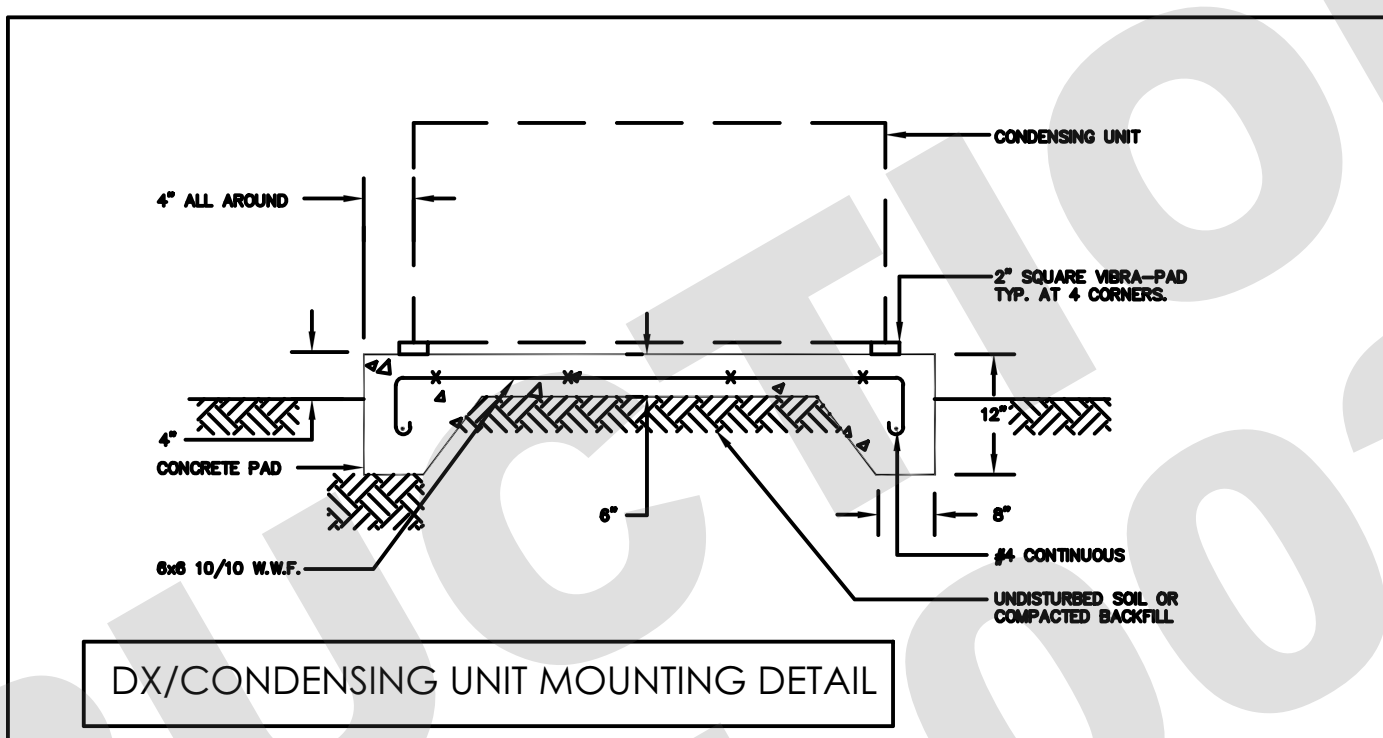
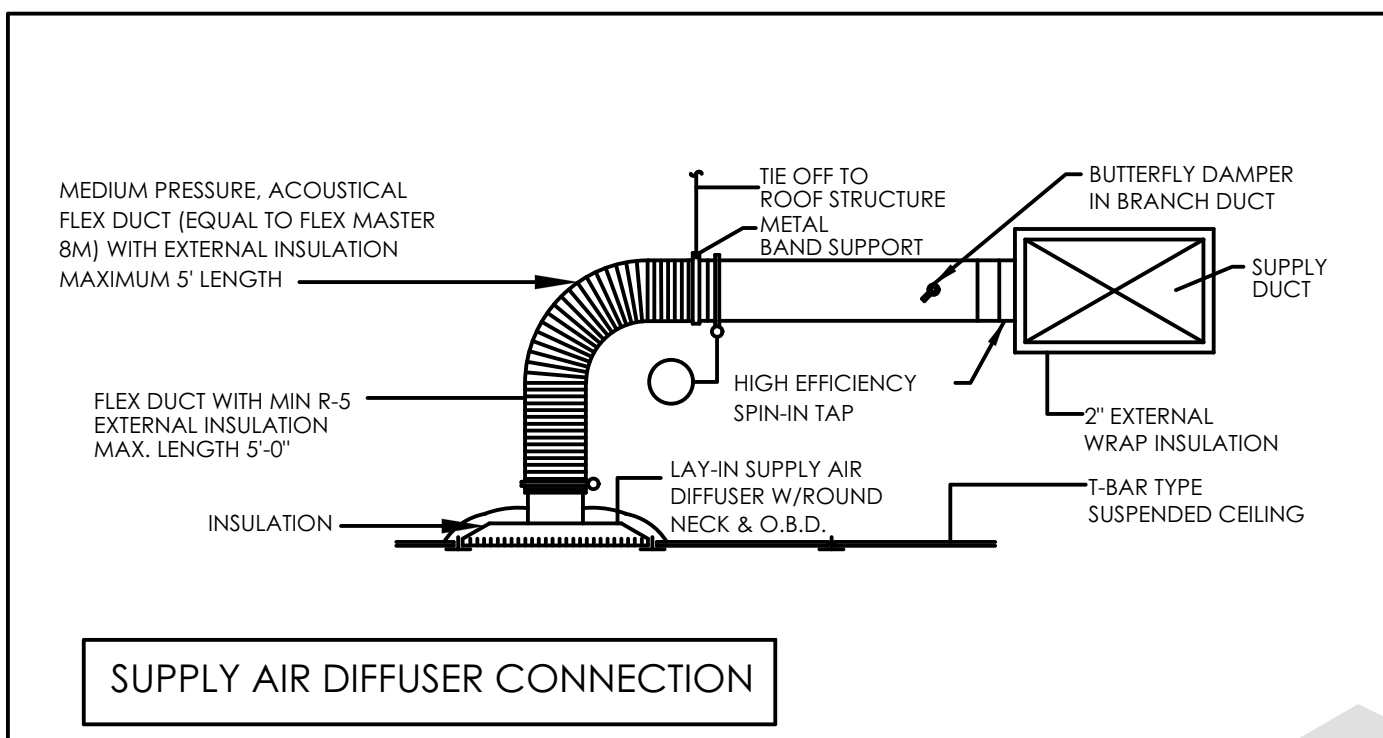
FACE SIZE TO BE SIZE SHOWN UNLESS OTHERWISE NOTED

DUCT SIZE TO BE SIZE SHOWN OR EQUIVALENT UNLESS OTHERWISE NOTED

FLEX DUCT WILL NOT BE ALLOWED ON RETURN GRILLE CONNECTIONS



PROVIDE A PERMANENT ELECTRIC OUTLET AND LIGHT FIXTURE CONTROLLED BY A SWITCH LOCATED AT THE ATTIC ACCESS LOCATION



InnoDez

Address: Foxbrough pl
Pleasanton, CA. 94566
Phone: (424) 414-0997
Web site: www.innodez.com
Email: hello@innodez.com

CLIENT:

ADDRESS:
CITY OF FRESNO CALIFORNIA

CONFIDENTIALITY STATEMENT:

ALL DRAWINGS AND WRITTEN MATERIALS APPEARING HEREIN CONSTITUTE THE ORIGINAL AND UNPUBLISHED WORK OF THE DESIGNER AND THE SAME MAY NOT BE DUPLICATED, USED OR DISCLOSED WITHOUT CONSENT OF THE DESIGNER.

NOTES:

1. ALL DIMENSIONS HEREIN ARE IN IMPERIAL UNITS UNLESS STATED OTHERWISE.
2. THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT DESIGNER, ENGINEER OR SPECIALIST DRAWINGS AND SPECIFICATIONS.
3. THE CONTRACTOR MUST CHECK ALL DIMENSION AT SITE BEFORE COMMENCING WORK.
4. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY TEMPORARY SUPPORT TO THE BUILDING AND ANY ADJACENT STRUCTURES.



REV. NO.	DESCRIPTION	DATE	BY
02	FOR APPROVAL	06.22	MN
01	FOR APPROVAL	03.22	MN
00	FOR APPROVAL	12.21	MN

PROJECT: ADU PROGRAM		
TITLE: MECHANICAL LAYOUT UNIT 2		
PROJ. NO. 2104	PROJ. ENGR.	SCALE @ 24X36 1/4"=1'-0"
DRAWING NO.		REV.
M1.01		2

- 1- AFTER INSTALLING WATER HEATING SYSTEMS, FENESTRATION AND HVAC EQUIPMENT, THE INSTALLER SHALL SUBMIT THE INSTALLATION CERTIFICATE (CF-2R FORM), COMPLETED AND SIGNED BY THE INSTALLER, LISTING THE EQUIPMENT INSTALLED, (MANUFACTURER, MODEL, AND EFFICIENCIES, U-VALUES AND SHGC-VALUES, ETC.) AND THAT IT MEETS OR EXCEEDS THE REQUIREMENTS OF THE ENERGY DOCUMENTATION (CEES SECTION 10-103(a)(3)).
- 2- UPON INSTALLATION, SPECIAL INSPECTION FOR FIELD VERIFICATION AND DIAGNOSTIC TESTING PERFORMED BY A THIRD PARTY CERTIFIED HERS RATER SHALL BE PROVIDED.
- 3- AIR CONDITIONING EQUIPMENT DESIGNED TO BE IN A FIXED POSITION SHALL BE SECURELY FASTENED, PER MANUFACTURER'S INSTALLATION INSTRUCTIONS. INSTALLATION INSTRUCTIONS SHALL BE PROVIDED TO THE FIELD INSPECTOR (CMC SECTION 903.4)
- 4- CMC SECTION 304.1: NOT LESS THAN 30" IN DEPTH, WIDTH AND HEIGHT OF WORKING SPACE SHALL BE PROVIDED IN FRONT OF ATTIC MOUNTED MECHANICAL EQUIPMENT.
- 5- MECHANICAL SYSTEM INCLUDING HEATING AND AIR CONDITIONING SYSTEMS THAT SUPPLY AIR TO HABITABLE SPACES SHALL HAVE MERV 13 FILTERS OR BETTER. (CEC 150.0(m)(12)(c))
- 6- UNLESS OTHERWISE PERMITTED OR REQUIRED BY THE DRYER MANUFACTURER'S INSTRUCTIONS AND APPROVED BY THE AUTHORITY HAVING JURISDICTION, DOMESTIC DRYER MOISTURE EXHAUST DUCTS SHALL NOT EXCEED A TOTAL COMBINED HORIZONTAL AND VERTICAL LENGTH OF 14 FEET, INCLUDING TWO 90 DEGREE ELBOWS. A LENGTH OF 2 FEET SHALL BE DEDUCTED FOR EACH 90 DEGREE ELBOW IN EXCESS OF TWO. (CMC504.4.2.1)

- Provide Special Inspection for Field Verification and Diagnostic Testing performed by a third party certified HERS Rater for the following:
- a) Quality insulation installation
 - b) Indoor air quality ventilation
 - c) Kitchen range hood
 - d) Minimum air flow
 - e) Verified EER
 - f) Verified SEER
 - g) Verified refrigerant charge
 - h) Fan efficacy watts / CFM
 - i) Verified HSPF
 - j) Verified heat pump rated heating capacity
 - k) Duct leakage testing
 - l) Ducts located entirely in conditioned space confirmed by duct leakage testing

PLUMBING SPECIFICATIONS

THE WORK INCLUDES MODIFICATION TO THE EXISTING PLUMBING SYSTEM AND PROVIDING NEW MATERIALS, FITTINGS AND ACCESSORIES NECESSARY FOR A COMPLETE FUNCTIONING PLUMBING SYSTEM. THE WORK ALSO INCLUDES ROUGH-IN AND FINAL CONNECTIONS TO FOOD SERVICE EQUIPMENT AND BEVERAGE DISPENSING EQUIPMENT PROVIDED BY OTHERS. ALL WORK SHALL BE IN ACCORDANCE WITH LOCAL CODES AND/OR ORDINANCES AND IS SUBJECT TO INSPECTION.

HOOK-UP CHARGES, PERMITS AND ALL OTHER EXPENSES RELATED TO A COMPLETE AND FUNCTIONING PLUMBING SYSTEM ARE INCLUDED AS A PART OF THIS SECTION.

WARRANTY: PROVIDE LABOR AND MATERIALS TO REPAIR OR REPLACE DEFECTIVE PARTS AND MATERIALS AS REQUIRED FOR ONE YEAR AFTER SUBSTANTIAL COMPLETION OR OWNER ACCEPTANCE OF THE COMPLETED PROJECT. PROVIDE A SEPARATE LINE ITEM DEDUCT AMOUNT ON THE PROPOSAL FORM TO DELETE WARRANTY SERVICE, AT THE OWNER'S OPTION.

THE INTENT OF THE DRAWINGS IS TO INDICATE THE GENERAL EXTENT OF WORK REQUIRED FOR THE PROJECT. THE DRAWINGS FOR PLUMBING WORK ARE DIAGRAMMATIC, SHOWING THE GENERAL LOCATION, TYPE, FIXTURES AND EQUIPMENT REQUIRED. THE DRAWINGS SHALL NOT BE SCALED FOR EXACT MEASUREMENTS. REFER TO MANUFACTURER'S STANDARD ROUGH-IN DRAWINGS FOR PLUMBING FIXTURE INSTALLATION REQUIREMENTS. COMPLY WITH ALL APPLICABLE ADA INSTALLATION REQUIREMENTS.

COORDINATE WITH THE WORK OF OTHER SECTIONS, EQUIPMENT FURNISHED BY OTHERS, AND WITH THE CONSTRAINTS OF THE EXISTING CONDITIONS OF THE PROJECT SITE.

PIPING SYSTEMS - GENERAL: ALL PIPING SHALL BE RUN PARALLEL TO BUILDING LINES AND SUPPORTED AND ANCHORED AS REQUIRED TO FACILITATE EXPANSION AND CONTRACTION. ALL PIPING SHALL BE CONCEALED EXCEPT IN UNFINISHED SPACES. INSTALL AS REQUIRED TO MEET ALL CONSTRUCTION CONDITIONS AND TO ALLOW FOR INSTALLATION OF OTHER WORK SUCH AS DUCTS AND ELECTRICAL CONDUIT. AT ALL CONNECTIONS BETWEEN FERROUS PIPING AND NONFERROUS PIPING, PROVIDE AN ISOLATING DIALECTIC UNION. ALL HANGERS SHALL BE COMPATIBLE WITH PIPING MATERIAL TO PREVENT CORROSION.

PROVIDE ALL FITTINGS, ACCESSORIES, OFFSETS, AND MATERIALS NECESSARY TO FACILITATE THE PLUMBING SYSTEM'S FUNCTIONING AS INDICATED BY THE DESIGN AND THE EQUIPMENT INDICATED.

FIXTURES/EQUIPMENT FURNISHED BY OTHERS: PLUMBING CONTRACTOR SHALL PROVIDE UTILITY CONNECTIONS REQUIRED SUCH AS WATER, GAS, AIR, SUPPLIES, WASTE OUTLET, TRAPS, ETC., AT ALL PLUMBING TYPE FIXTURES OR EQUIPMENT FURNISHED BY OWNER. GENERAL CONTRACTOR, FOOD SERVICE CONTRACTOR, EQUIPMENT SUPPLIER, ETC., INCLUDED ARE STOP VALVES, ESCUTCHEONS, AND CHROME PLATED BRASS TUBING WITH COMPRESSION FITTINGS.

SEWER AND WASTE PIPING: PROVIDE ALL DRAINS AND SEWERS WITHIN THE SPACE WITH CONNECTION TO THE EXISTING DRAINAGE SYSTEMS ON-SITE. SANITARY DRAINAGE PIPING ABOVE FLOOR SHALL BE CO-EXTRUDED PVC DWV (SCHEDULE 40) PIPE, FITTINGS AND CONNECTIONS. SANITARY DRAINAGE PIPING BELOW GRADE SHALL BE CO-EXTRUDED PVC DWV (SCHEDULE 40) PIPE WITH SOLVENT WELD FITTINGS MAY BE USED (WHERE PERMITTED BY CODE/LOCAL AUTHORITIES). ALL DRAINAGE PIPING SHALL BE UNIFORMLY PITCHED, 1/4" PER FOOT UNLESS OTHERWISE REQUIRED BY EXISTING CONDITIONS, OR INDICATED ON THE DRAWINGS.

VENTS: PROVIDE A COMPLETE SYSTEM OF STANDARD WEIGHT CAST IRON NO-HUB VENT RISERS WHERE THE CEILING SPACE IS USED AS A RETURN AIR PLENUM OR USE CO-EXTRUDED PVC DWV (SCHEDULE 40) PIPE (WHERE PERMITTED BY CODE/LOCAL AUTHORITIES) WHERE THERE IS A DUCTED RETURN AIR SYSTEM. DO NOT USE PVC PIPE IN RETURN AIR PLENUM SPACES. THE VENT SYSTEM SHALL BE CARRIED THROUGH THE ROOF WITH APPROPRIATE FLASHING.

CONDENSATE AND INDIRECT DRAIN PIPING: PIPING ABOVE FLOOR SHALL BE CO-EXTRUDED PVC DWV (SCHEDULE 40) PIPE, FITTINGS AND CONNECTIONS, PIPING BELOW GRADE SHALL BE CO-EXTRUDED PVC DWV (SCHEDULE 40) PIPE WITH SOLVENT WELD FITTINGS.

CLEANOUTS: PROVIDE CLEANOUTS AT THE END OF EACH HORIZONTAL RUN, AND AT THE BASE OF ALL VERTICAL WASTE AND DRAIN PIPES. CLEANOUTS SHALL BE OF THE SAME SIZE AS THE PIPES THEY SERVE, CONFORMING TO CODE REQUIREMENTS. PROVIDE SUITABLE WALL OR FLOOR CLEANOUTS WITH ACCESSORIES TO OBSCURE FROM VIEW.

WATER DISTRIBUTION PIPING: LAYOUT WATER PIPING SO THAT THE ENTIRE SYSTEM CAN BE DRAINED. HOT AND COLD WATER PIPING SHALL BE 1/2" MIN. CPVC PIPE WITH SOLVENT FITTING. PROVIDE WATER HAMMER ARRESTERS AT EACH FIXTURE OR GROUP OF FIXTURES AS REQUIRED. INSTALL CHROME PLATED BRASS ESCUTCHEON PLATES AT ALL PENETRATIONS THROUGH FINISHED SURFACES (INCLUDING CABINET INTERIORS).

PIPE INSULATION: INSULATE (AS ALLOWED BY CODE) ALL LISTED SERVICE PIPING AS FOLLOWS. DOMESTIC COLD/HOT WATER, HOT WATER RETURN, STORM WATER PIPING, PROVIDE PRE-FORMED FIBERGLASS, AS/JCS-11, FLAME SPREAD 25, SMOKE SPREAD 50, ASTM C-547, FOR CONDENSATE PIPING PROVIDE 1/2" THICK INSULATION OF SAME CHARACTERISTICS AS LISTED FOR 1" ABOVE, WHERE PERMITTED BY LOCAL CODES, PROVIDE 1/2" SELF-ADHESIVE UNICELLULAR FOAM PIPE INSULATION WITH PRE-FORMED PVC FITTING COVERS - EQUAL TO SELF-ADHESIVE ARMSTRONG 2000 WITH K FACTOR OF 0.27 AT 75 DEGREES MEAN TEMPERATURE. INSULATE ANY EXPOSED CONDENSATE PIPING WITH WASTE TEMPERATURE BELOW 60 DEGREES F.

SHUTOFF VALVES, WITH UNIONS SHALL BE PROVIDED FOR SERVICE TO EACH PLUMBING FIXTURE. FOOD SERVICE EQUIPMENT ITEM OR OTHER EQUIPMENT ITEM, TO FACILITATE ISOLATION FOR REPAIR OR REPLACEMENT. VALVES SHALL BE EQUAL TO JENKINS #9021 BALL VALVE, CHROME-FINISHED BRONZE, TEFLON SEATS AND PACKING, 400 LB. W.O.G., SOLDER END.

ACCESS PANELS SHALL BE PROVIDED WHERE CONCEALED CONTROL DEVICES, VALVES, ETC. ARE CONCEALED WITHIN WALLS. WHERE ACCESS FOR ADJUSTMENT AND MAINTENANCE IS POSSIBLE THROUGH LAY-IN SUSPENDED CEILINGS, ACCESS PANELS ARE NOT REQUIRED.

PIPING SYSTEM- PVC SCHEDULE 40, SCHEDULE 80 AND CPVC PIPE WITH SOLVENT FITTINGS SHALL BE USED WHERE PERMITTED BY CODE/LOCAL AUTHORITIES.

INSTALLATION: THOROUGHLY CLEAN ITEMS BEFORE INSTALLATION. CAP PIPE OPENINGS TO EXCLUDE DIRT UNTIL FIXTURES ARE INSTALLED AND FINAL CONNECTIONS HAVE BEEN MADE. PROCEED AS RAPIDLY AS CONSTRUCTION WILL PERMIT. SET FIXTURES LEVEL AND IN PROPER ALIGNMENT. INSTALL SUPPLIES IN PROPER ALIGNMENT WITH FIXTURES. INSTALL SILICONE SEALANT BETWEEN FIXTURES AND ADJACENT MATERIAL. FOR SANITARY JOINT, AND OMIT ESCUTCHEONS.

REPAIR EXISTING PLUMBING SYSTEM COMPONENTS DAMAGED BY CONSTRUCTION OPERATIONS AND RESTORE TO ORIGINAL CONDITIONS.

TEST WATER SYSTEM UNDER 150 PSIG HYDROSTATIC PRESSURE, FOR FOUR (4) HOURS MINIMUM. WHEN TESTING INDICATES MATERIALS OR WORKMANSHIP IS DEFICIENT, REPLACE OR REPAIR AS REQUIRED, AND REPEAT TEST UNTIL STANDARDS ARE ACHIEVED.

ROOF PENETRATIONS SHALL COMPLY WITH "SMACNA" AND "NRCA" STANDARDS, AND WITH THE REQUIREMENTS OF THE EXISTING ROOFING WARRANTY, IF APPLICABLE. DO NOT PERFORM ROOFING PENETRATIONS IN A MANNER WHICH WOULD VOID OR OTHERWISE LIMIT THE EXISTING ROOFING WARRANTY.

GENERAL NOTES

1. THE INTENT OF THESE PLANS AND SPECIFICATIONS IS TO INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND SERVICES NECESSARY TO FURNISH, INSTALL, TEST, AND ADJUST A COMPLETE WORKABLE PLUMBING INSTALLATION AS SHOWN, PRESCRIBED, OR REASONABLY IMPLIED BUT NOT LIMITED TO THAT EXPLICITLY INDICATED IN THE CONTRACT DOCUMENTS, BUT NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF THE INTENT THEREOF.

2. THE ENTIRE INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF 2019 CALIFORNIA CODE AND ALL OTHER APPLICABLE CODES AND REGULATIONS REQUIRED BY AUTHORITIES HAVING JURISDICTION. IN THE EVENT OF CONFLICT BETWEEN SPECIFICATIONS, CODES, AND REGULATIONS, THE MORE RESTRICTIVE SHALL APPLY.

3. COORDINATE ENTIRE INSTALLATION OF THE PLUMBING SYSTEM WITH THE WORK OF OTHER TRADES PRIOR TO ANY FABRICATION OR INSTALLATION. FIELD VERIFY ALL DIMENSIONS AND CONDITIONS. REPORT ANY DISCREPANCIES, IN WRITING, TO THE ENGINEER PRIOR TO COMMENCEMENT OF WORK.

4. CONTRACTOR SHALL PROVIDE AS-BUILT DRAWINGS WITH ALL CHANGES NOTED THEREON AT THE COMPLETION OF THE PROJECT IN ACCORDANCE WITH THE SPECIFICATIONS.

5. PROVIDE ONE YEAR WARRANTY ON ALL PARTS AND LABOR.

6. THE DRAWINGS ARE DIAGRAMMATIC AND INTENDED TO SHOW SCOPE. CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER TRADES TO PROVIDE THE BEST ARRANGEMENT OF ALL DUCT, PIPE, CONDUIT, ETC.

7. ALL CUTTING AND PATCHING OF THE EXISTING STRUCTURE SHALL BE PROVIDED UNDER OTHER SECTIONS OF THE WORK. PROVIDE NECESSARY REQUIREMENTS TO THE PROJECT SUPERINTENDENT.

8. ALL HOT WATER PIPING AND RECIRCULATION PIPING (EXCEPT RUNOUTS 12 FT. OR SHORTER TO INDIVIDUAL FIXTURES) SHALL BE INSULATED TO MEET THE REQUIREMENTS OF THE 2019 CALIFORNIA PLUMBING CODE.

9. CONDENSATE DRAINS SHALL BE PROVIDED FOR EACH AIR CONDITIONING UNIT. HORIZONTAL CONDENSATE DRAINS ABOVE ANY CEILING SHALL BE INSULATED WITH MIN. 3/8" THICK CLOSED CELL INSULATION.

10. PIPING:
A. WASTE, VENT, AND STORM DRAIN PIPING SHALL BE CO-EXTRUDED PVC (SCHEDULE 40) PIPE
B. WATER PIPE SHALL BE CPVC PIPE

C. CONDENSATE PIPING SHALL BE CO-EXTRUDED PVC (SCHEDULE 40) PIPE
D. INSIDE GAS PIPING SHALL BE BLACK IRON SCHEDULE 40 WITH MALLEABLE IRON FITTINGS. OUTSIDE SHALL BE GALVANIZED IRON SCHEDULE 40 WITH GALVANIZED FITTINGS. GAS LINE TO BE PAINTED GRAY IN COLOR. A 24 HOUR METERED GAS TEST SHALL BE REQUIRED.

E. ALL PIPING NOT ENCLOSED IN CONDITION SPACE OR AT EXTERIOR WALLS SHALL BE INSULATED.

F. PIPING: PVC SCHEDULE 40, SCHEDULE 80 AND CPVC PIPING WITH SOLVENT WELD FITTINGS SHALL BE USED WHERE PERMITTED BY CODE/LOCAL AUTHORITIES

11. ALL VENTS OR EXHAUSTS SHALL BE AT LEAST 10 FT. AWAY OR 3 FT. ABOVE ANY WINDOW, DOOR, OPENING, OR AIR INTAKE.

12. CLEANOUTS SHALL BE INSTALLED PER THE CALIFORNIA PLUMBING CODE

13. PROVIDE WATER TIGHT FLASHINGS WHEREVER PIPES PASS THROUGH EXTERIOR WALLS, ROOFS, OR FLOORS.

14. PROVIDE ISOLATION FOR ALL PIPES THAT COME IN CONTACT WITH THE STRUCTURE.

15. LOCATION OF EXISTING UTILITIES AND POINTS OF CONNECTION ARE APPROXIMATE. CONTRACTOR SHALL VERIFY EXACT LOCATIONS AND DEPTHS OF EXISTING UTILITIES AND SERVICES PRIOR TO STARTING WORK OF THIS SECTION. IF INDICATED POINTS OF CONNECTION CANNOT BE MADE TO EXISTING UTILITIES AS FOUND, THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO INSTALLING ANY WORK WHICH MAY BE AFFECTED.

16. VALVES SHALL BE NIBCO, JENKINS, HAMMOND, RED & WHITE OR APPROVED EQUAL. SERVICE PRESSURE SHALL BE SUITABLE FOR SERVICE INTENDED. THE MAIN WATER SHUT OF VALVE SHALL BE A FULL PORT BALL TYPE AND APPROVED FOR SERVICE INTENDED.

17. CONTRACTOR SHALL PROVIDE ALL SHUT OFF VALVES AS NECESSARY TO ISOLATE ANY EQUIPMENT, PLUMBING ITEMS, OR FIXTURES, THAT MAY NEED SERVICING OR ARE SUBJECT TO FAILURE WHETHER OR NOT SUCH VALVES ARE SHOWN ON THE DRAWINGS.

18. PROVIDE HANGERS AND SUPPORTS AS REQUIRED. PLUMBERS TAPE AND WIRE ARE NOT ACCEPTABLE.

19. CONTRACTOR IS RESPONSIBLE FOR HIS OWN TRENCHING, BACKFILL, AND COMPACTION OF TRENCHES NECESSARY TO COMPLETE HIS SCOPE OF WORK. BACKFILLED TRENCHES SHALL BE RETURNED TO THEIR ORIGINAL GRADE UNLESS NOTED OTHERWISE.

20. CONTRACTOR SHALL AFFIX A MAINTENANCE LABEL TO ALL EQUIPMENT REQUIRING ROUTINE MAINTENANCE AND SHALL PROVIDE MAINTENANCE AND OPERATIONAL MANUALS IN ACCORDANCE WITH THE SPECIFICATIONS.

21. ALL EQUIPMENT THAT REQUIRES KEYS OR SPECIAL TOOLS TO OPERATE SHALL SUPPLY THE OWNER WITH TWO OF ANY SUCH KEYS OR TOOLS FOR EACH PIECE OF EQUIPMENT THAT REQUIRE THE SAME.

25. ANY CHANGE OR DEVIATION FROM THESE PLANS OR SPECIFICATIONS SHALL REQUIRE THE APPROVAL, IN WRITING, OF THE ENGINEER PRIOR TO COMMENCEMENT OF SUCH WORK.

26. ALL PLUMBING, ELECTRICAL, AND GAS LINES SHALL BE CONCEALED WITHIN THE BUILDING STRUCTURE TO AS GREAT EXTENT AS POSSIBLE. ALL LINES NOT CONCEALED SHALL BE SECURED 6" OFF THE FLOOR AND 3/4" FROM THE WALLS USING STANDOFF BRACKETS

27. AN APPROVED BACKFLOW PREVENTOR SHALL BE PROPERLY INSTALLED UPSTREAM OF ANY POTENTIAL HAZARD BETWEEN THE POTABLE WATER SUPPLY AND SOURCE OF COMTAMINATION.

28. WATER SUPPLY CARBONATORS SHALL BE PROTECTED BY AN APPROVED REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTOR. THE RELIEF VALVE SHALL DRAIN IN-DIRECTLY TO A FLOOR SINK WITH A 1" MIN. AIR GAP.

PIPE MATERIAL SCHEDULE

SERVICE		COPPER TYPE "M"	COPPER TYPE "L"	COPPER TYPE "K"	CAST IRON	BLACK STEEL	GALV. STEEL	VTRI. CLAY	ABS	SCH-40 PVC	SCH-40 CPVC	REMARKS
WATER PIPING	INSIDE		X									
	OUTSIDE									X		
SANITARY DRAIN	INSIDE									X		
	OUTSIDE									X		
SANITARY VENT	INSIDE									X		
	OUTSIDE									X		
GAS PIPING	INSIDE					X						
	OUTSIDE						X					
STORM DRAIN	INSIDE									X		
	OUTSIDE									X		
INDIRECT DRAINAGE	INSIDE									X		
	OUTSIDE									X		
CONDESATE	INSIDE									X		
	OUTSIDE									X		
COMPRESSED AIR	INSIDE					X						
	OUTSIDE						X					
NOTES:												

PLUMBING LEGEND		
SYMBOL	ABBREV	DESCRIPTION
	SS or W	NEW SEWER OR WASTE
	V	NEW VENT
	CW	NEW COLD WATER
	HW	NEW HOT WATER
	G	NEW GAS
	CD	NEW CONDENSATE DRAIN
	CA	COMPRESSED AIR
	FCO	FLOOR CLEANOUT
	WCO	WALL CLEANOUT
	FD	FLOOR DRAIN
	FS	FLOOR SINK
	TP	TRAP PRIMER & TRAP PRIMER PIPING
	SOV	SHUT-OFF VALVE
	CV	CHECK VALVE
	PRV	BACKFLOW PREVENTER W SOV'S
	T & P	
	DN	PIPE DOWN
	UP	PIPE UP
	POC	POINT OF CONNECTION
	-	PLUMBING NOTE CALL-OUT
	ABV	ABOVE
	AFB	ABOVE FINISH FLOOR
	AP	ACCESS PANEL
	BEL	BELOW
	BLDG	BUILDING
	CLG	CEILING
	CONT	CONTINUATION
	EL	ELEVATION
	FIN	FINISH
	FL	FLOOR
	GR	GRADE
	NTS	NOT TO SCALE
	OC	ON CENTER
	S= %	SLOPE AT A PERCENTAGE
	SHT	SHEET
	TYP	TYPICAL
	VTR	VENT THRU ROOF

PLUMBING / GENERAL NOTES

BATHTUBS AND WHIRLPOOL BATHTUBS. THE MAX. HOT WATER TEMPERATURE DISCHARGING SHALL BE LIMITED TO 120 DEGREES. CPC 414/2019
BATHTUBS WASTE OPENING IN FLOOR OVER CRAWL SPACES SHALL BE PROTECTED BY A METAL SCREEN NOT EXCEEDING 12" OR SOLID COVER.
CPC 313.12.4 2019
SHOWERS AND TUB-SHOWERS COMBINATIONS IN ALL BUILDINGS SHALL BE PROVIDED WITH INDIVIDUAL CONTROL VALVES OF THE PRESSURE BALANCE, THERMOSTATIC, OR COMBINATION OF BOTH THAT PROVIDE SCALD AND THERMAL SHOCK PROTECTION. VALVES SHALL BE ADJUSTED TO DELIVER A MAXIMUM MIXED WATER SETTING OF 120 DEGREES FAHRENHEIT. THE WATER HEATER THERMOSTAT SHALL NOT BE CONSIDERED A SUITABLE CONTROL FOR MEETING THIS PROVISION. 418.0 CPC/2019
VERIFY AND WHERE WATER PRESSURE EXCEEDS 80 PSI AN APPROVED PRESSURE REGULATOR PRECEDED BY AN ADEQUATE STRAINER SHALL BE INSTALLED 608.2 CPC / 2019

1-INSTALL TEMPERATURE AND PRESSURE RELIEF VALVE WITH MINIMUM 34" DRAIN PIPE AND TERMINATE TO THE EXTERIOR OF THE BUILDING OVER WINDOW, DOOR OR VISIBLE LOCATION. DISCHARGE FROM A RELIEF VALVE INTO A WATER HEATER PAN SHALL BE PROHIBITED CPC 608.5, 510.8.

2-PROVIDE (ON THE PLANS) A GAS PIPING DIAGRAM OF THE GAS PIPING SYSTEM THAT INCLUDES ALL PIPE SIZES, PIPE LENGTHS AND BTU RATINGS.

3-SUBMIT GAS LOAD CALCULATIONS IN ACCORDANCE WITH CPC TABLE 12.8 TO VERIFY THE PIPE SIZES ARE ADEQUATE FOR THE MAXIMUM DELIVERY CAPACITY OF CUBIC FEET OF GAS PER HOUR.

4- A WHOLE HOUSE HAS TEST IS REQUIRED UPON COMPLETION OF THE INSTALLATION, ALTERATION, OR REPAIR OF ANY GAS PIPING.
THE CITY SHALL BE NOTIFIED WHEN GAS PIPING IS READY FOR INSPECTION.
5- 2 GPM SHOWER FIXTURE, MAX.1.5 GPM BATHROOM FAUCET, MAX. 2 GPM KITCHEN FAUCET, AND MAX 1.28 WATER CLOSET TO CONFORM TO CITY GREEN REQUIREMENTS.

BATHROOMS: PROVIDE AN EXHAUST FAN (AT LEAST 50 CFM) DUCTED TO THE OUTSIDE (MINIMUM 4" DIAMETER FLEX DUCT WITH A MAXIMUM LENGTH OF 70')WITH A MINIMUM VENTILATION RATE OF 100 CFM. IDENTIFY THE REQUIREMENT FOR A BACKDRAFT DAMPER ON THE DUCT, AN ENERGY STAR COMPLIANT EXHAUST FAN THAT IS CONTROLLED BY A HUMIDITY SENSOR THAT IS CAPABLE OF BEING ADJUSTED BETWEEN ≤ 50-PERCENT TO 80-PERCENT HUMIDITY, AND A SEPARATE SWITCH FROM THE LIGHT UNLESS THE FAN IS ALLOWED TO OPERATE WITH THE LIGHT SWITCHED OFF.

6-NOTE THAT ALL PLUMBING VENTS SHALL TERMINATE NOT LESS THAN 6" ABOVE ROOF NOR LESS THAN 1' FROM ANY VERTICAL SURFACE. VENTS SHALL TERMINATE NOT LESS THAN 10' FROM OR 3' ABOVE ANY WINDOW, DOOR OPENING AIR INTAKE, OR VENT SHAFT NOR 3' FROM LOT LINE.
(2019 CPC 906) IF WATER PRESSURE EXCEEDS 80 PSI, AND EXPANSION TANK AND AN APPROVED PRESSURE REGULATOR SHALL BE INSTALLED. (2019 CPC608.2)
NON-REMOVABLE BACK FLOW PRE-VENTER OR BIBB-TYPE VACUUM BREAKER WILL BE INSTALLED ON ALL EXTERIOR HOSE BIBS. (2019 CPC603.4.7)
HOT WATER RE-CIRCULATING SYSTEM IS INSTALLED, THE ENTIRE LENGTH OF HOT WATER PIPES SHALL BE INSULATED, (2008 CALIFORNIA ENERGY REGULATIONS 150 (JJ)
HOT WATER PIPE FROM THE WATER HEATER TO THE KITCHEN WILL BE INSULATED. (CALIFORNIA ENERGY REGULATIONS 151 (FJ) D)

WATER SAVING STANDARDS

THE WATER SAVING PERFORMANCE STANDARDS FOR A PLUMBING FIXTURE ARE THOSE ESTABLISHED BY THE AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI), CURRENT REVISION, OR THE FOLLOWING STANDARDS, WHICHEVER ARE THE MORE RESTRICTIVE
1.THE MAXIMUM FLOW FROM A SINK OR LAVATORY FAUCET OR A FAUCET AERATOR SHALL NOT EXCEED 0.5 GALLONS OF WATER PER MINUTE AT A PRESSURE OF 60 POUNDS PER SQUARE INCH WHEN TESTED IN ACCORDANCE WITH ANSI TESTING PROCEDURES
2.THE MAXIMUM VOLUME OF WATER PER FLUSH FROM A TOILET SHALL NOT EXCEED AN AVERAGE OF 1.28 GALLONS WHEN TESTED IN ACCORDANCE WITH ANSI TESTING PROCEDURES
3. THE MAXIMUM VOLUME OF WATER PER FLUSH FROM A URINAL AND THE ASSOCIATED FLUSH VALVE, IF ANY, SHALL NOT EXCEED AN AVERAGE OF ONE GALLON WHEN TESTED IN ACCORDANCE WITH ANSI TESTING PROCEDURES

SPECIAL NOTICE TO CONTRACTORS

- ALL CONTRACTORS (GENERAL CONTRACTOR AND SUB-CONTRACTORS) BIDDING THIS PROJECT ARE REQUIRED TO VISIT THE JOB SITE AND VERIFY THE EXISTING CONDITIONS PRIOR TO SUBMITTING THEIR BID. CONTRACTORS ARE TO CAREFULLY REVIEW ALL CONSTRUCTION DOCUMENTS AND NOTE ANY DISCREPANCIES BETWEEN THE CONSTRUCTION DOCUMENTS AND THE CONDITIONS OBSERVED AT THE JOB SITE PRIOR TO SUBMISSION OF ANY BID. THE BUILDING OWNER REPRESENTATIVE LISTED BELOW MAY BE CONTACTED FOR ACCESS TO THE JOB SITE.
- CONTRACTORS ARE RESPONSIBLE FOR VERIFYING THE LOCATION AND CONDITION OF ALL POINTS OF CONNECTION, LOCATION AND CONDITION OF ALL BUILDING (ROOF/FLOOR/CEILING) PENETRATIONS, LOCATION AND CONDITION OF ALL UTILITIES AND BUILDING SYSTEMS INCLUDING, BUT NOT LIMITED TO, GAS, WATER, SEWER, VENT, ELECTRICAL, BUILDING MECHANICAL SYSTEMS, DUCT CONNECTIONS, EXHAUST/OUTSIDE AIR CONNECTIONS, SECURITY, FIRE ALARM, DATA, AND PHONE PRIOR TO SUBMISSION OF THEIR BID.
- ANY DISCREPANCIES BETWEEN THE CONSTRUCTION DOCUMENTS AND THE CONDITIONS OBSERVED SHALL BE BROUGHT TO THE ATTENTION, IN WRITING, TO THE ARCHITECT AND/OR ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.

InnoDez

Address: Foxbrough pl
Pleasanton, CA. 94566

Phone: (424) 414-0997

Web site: www.innodez.com

Email: hello@innodez.com

CLIENT:

ADDRESS:

CITY OF FRESNO CALIFORNIA

CONFIDENTIALITY STATEMENT:

ALL DRAWINGS AND WRITTEN MATERIALS

APPEARING HEREIN CONSTITUTE THE

ORIGINAL AND UNPUBLISHED WORK OF THE

DESIGNER AND THE SAME MAY NOT BE

DUPLICATED, USED OR DISCLOSED WITHOUT

CONSENT OF THE DESIGNER.

NOTES:

- ALL DIMENSIONS HEREIN ARE IN IMPERIAL UNITS UNLESS STATED OTHERWISE.
- THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT DESIGNER, ENGINEER OR SPECIALIST DRAWINGS AND SPECIFICATIONS.
- THE CONTRACTOR MUST CHECK ALL DIMENSION AT SITE BEFORE COMMENCING WORK.
- THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY TEMPORARY SUPPORT TO THE BUILDING AND ANY ADJACENT STRUCTURES.



REV.	NO.	DESCRIPTION	DATE	BY
02		FOR APPROVAL	06.22	MN
01		FOR APPROVAL	03.22	MN
00		FOR APPROVAL	12.21	MN

PROJECT:

ADU PROGRAM

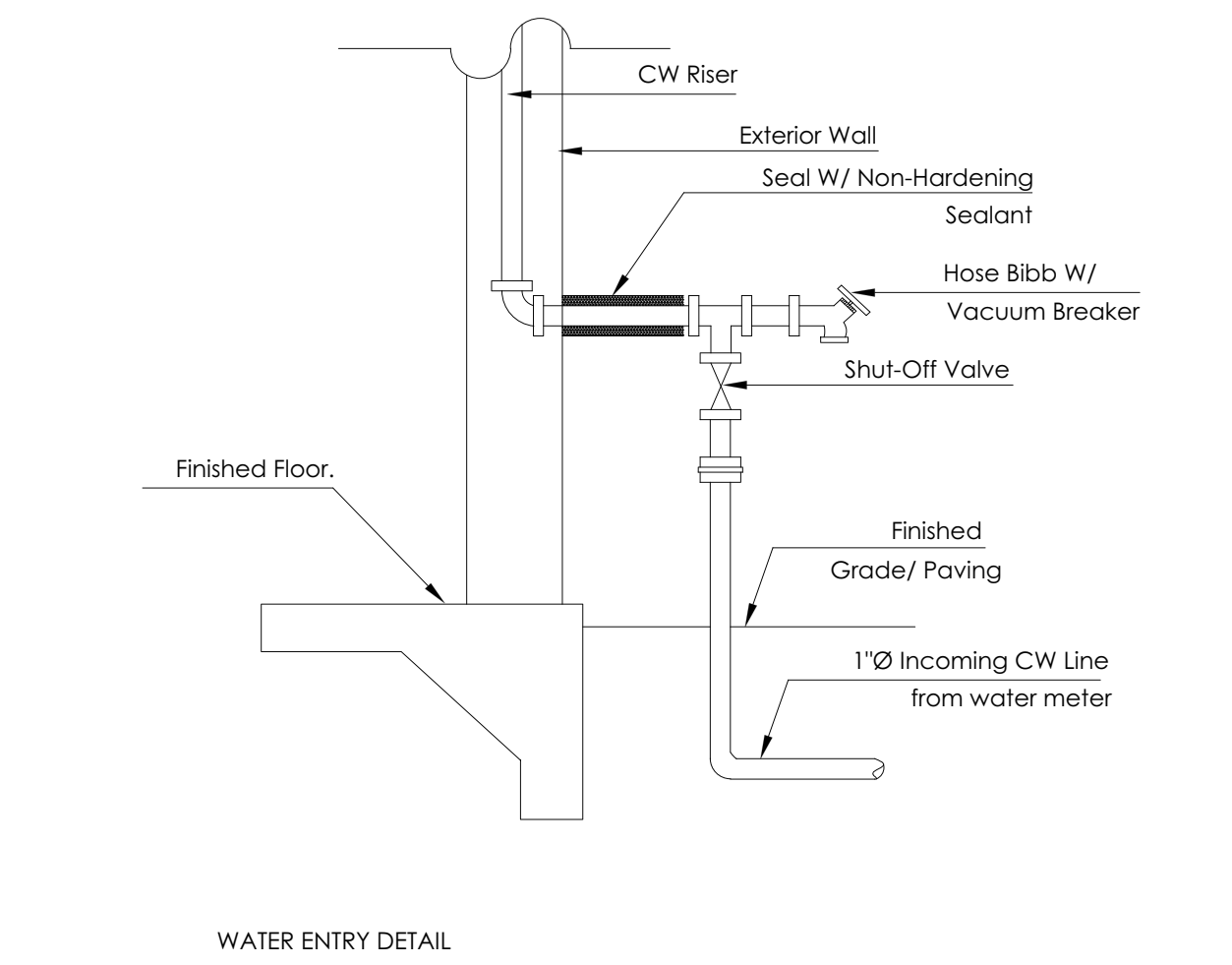
TITLE:
PLUMBING SPECIFICATIONS,
DETAILS & SYMBOLS

PRDJ. NO.	PRDJ. ENGR.	SCALE @ 24X36-
2104		NTS

DRAWING NO. REV.

P 0 . 0 0

2



WATER ENTRY DETAIL

NO SCALE

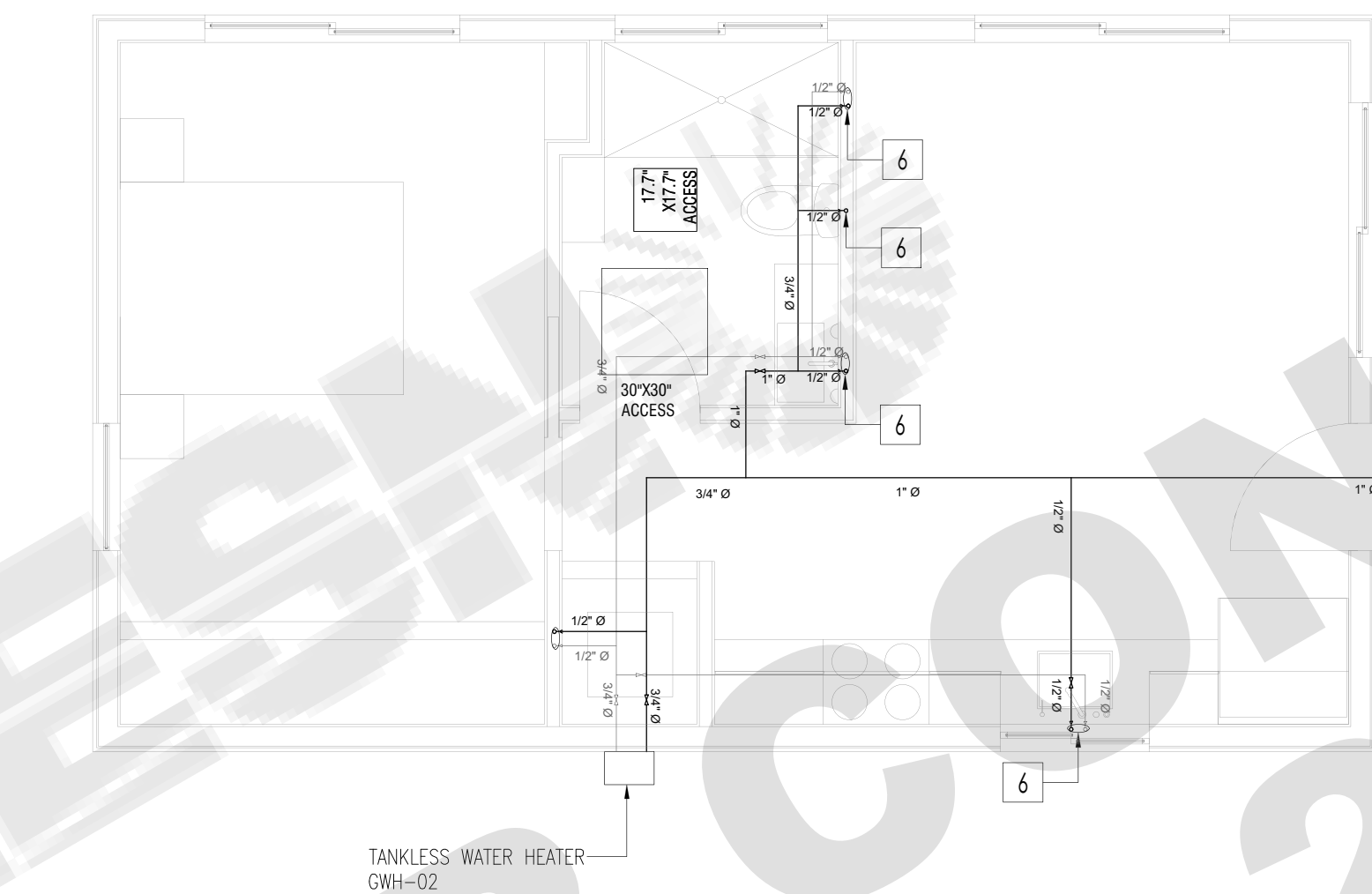
TABLE 610.3: WSFU

FIXTURE UNIT	PRIVATE
SHOWER	2.0
WATER CLOSET	2.5
LAVATORY	1.0
KITCHEN SINK	1.5
CLOTHES WASHER	4.0
TOTAL WSFU	11.0

SCHEDULE No. 1
RESIDENTIAL GAS TANKLESS WATER HEATER

TAG	GWH-2
LOCATION	TOILET GROUND FLOOR
MANUFACTURER	NAVIEN
MODEL	NPE-240A2
TYPE	Gas
HEATING (MBH)	15 - 150
ENERGY FACTOR	0.95
MINIMUM FLOW RATE (GPM)	0.50
ELECTRICAL POWER (W)	350.00
DIMENSION (W x H x D) INCHES	17.3" x 27.4" x 13.2"
ELECTRICAL V/PH/HZ	120/1/60
HOT ,COLD & GAS CONNECTION (INCH)	3/4 NPT

8- EACH VALVE NEEDS A HOSE BIBB OR OTHER FITTING FOR FLUSHING THE WATER HEATER WHEN THE VALVES ARE CLOSED.



UNIT 02

THE LEADER IN WATERLESS TECHNOLOGY

Premium Condensing Tankless Gas Water Heaters

- Certified design according to ANSI Z21.28.3 – CSA 4.1 series standards for both indoor or outdoor installation (with optional Outdoor Vent Kit)
- Compliant with 1/2" gas pipe up to a length of 24"*

Compliant with 2" PVC vent up to 75'W** and 150'W*** using 2" PVC vent*** (no rain coats)

- Designed for use in Residential and Commercial applications (not for use in commercial multi-unit buildings)

Gas Input Ratings:

NPE-18A2Z-121 - 120,000 BTU/h	
NPE-18B2Z-121 - 120,000 BTU/h	
NPE-24A2Z-149 - 149,000 BTU/h	
NPE-24B2Z-149 - 149,000 BTU/h	
NPE-30B2Z-174,000 BTU/h	

* Cold Water Flow Rate Capacity (N/A at 70°F temperature)
 NPE-18A2Z-121 4.5 GPM
 NPE-18B2Z-121 4.5 GPM
 NPE-24A2Z-149 5.0 GPM
 NPE-24B2Z-149 5.0 GPM
 NPE-30B2Z-174 6.0 GPM

** With 100° F tank drain (up to 100° F)

*** With Primary and Secondary Stainless Steel Heat Exchangers for optimum efficiency and durability

- Also for Advanced Multi-Vent Control Panel with wind-up adapters for optimization of settings and safety of operating vents and error codes.

• **Advanced Drain Technology:** A2 model units include with standard Backflow Valve to prevent backflow water from entering the unit.

INTELLIGENT PROTECT™, recognizes hot water usage patterns to intelligently provide hot water when needed, saving a "waste"

• **Temperature Control:** Intelligent temperature setting for Residential applications ranges from 77°F up to 140°F with high temperature protection; model capable of up to 160°F

• **Ready-Like Canteen Compatible** can be set to increase flow rate

Common Vent Connector: allows for connection to make a single vent system smaller pipe size up to 14 inch with the use of the Common Vent Multi-Pass Adapter Kit (sold separately)

• Compliant with **Navien WH-6** Code (www.nvna.com)

• **Energy Protection:** maintains normal operation during freezing ambient conditions down to 5°F (standard) in all models

Efficiency Energy Factor Ratings:

NPE-18A2Z-121/24A2Z-149	0.95 EER
NPE-18B2Z-121/24B2Z-149	0.96 EER
NPE-30B2Z-174	0.92 EER

• Compliant with Natural Gas (NG) and Propane (LP) (see venting)

• Approved for installation in Manufactured Homes

• Optional **Natural Circulation Vent Cap** available

- Certified to CAN, NSF & ASME AWWC95 Low Lead ACPQD (Risk Class 2 Type 1 Complies with 0.05% Pb per 30 gms @ 100 °F)
- 15 Year Tank Exchange and 15 Year Parts Warranty (Standard)****
- 10 Year Limited Labor and 10 Year Parts Warranty (Commercial)****

*Optional accessories are available (see below)

NPE-2 Series Tankless Water Heaters Specification Sheet

Direct Vent (Indoor)

Job Name:

Location:

Register #:

Installer:

Customer:

Model No.:

Submitted to:

1 | Page 05-01-15

[illegible]

4303.1.1	All Water closets: <1.28 gal/flush Tank type water closet shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Tank-type Toilets.
4303.1.2	Urinals: <0.5 gal/flush
4303.1.3.1	Single showerheads: <1.8 gpm @ 80 psi
4303.1.3.2	Multiple showerheads: combined flow rate of all showerheads and/or other shower outlets controlled by a single valve shall not exceed 1.8 gpm @ 80 psi or only one shower outlet is to be in operation at a time.
4303.1.4.1	Residential Lavatory Faucets: 0.8 gpm @ 20 psi ≤ Flow Rate <1.2 gpm @ 60 psi
4303.1.4.2	Lavatory Faucets in common and Public Use Areas (outside of dwellings or sleeping units) in residential buildings: <0.5 gpm @ 60 psi
4303.1.4.3	Metering Faucets: <0.25 gallons per cycle
4303.1.4.4	Kitchen Faucets: <1.8 gpm @ 60 psi; Maximum Flow Rate of 1.8 gpm

A plumbing fixture certification must be completed and signed by either a licensed general contractor, or a plumbing subcontractor, or the building owner certifying the flow rate of the fixtures installed. A copy of the certification can be obtained from the development services department.

FIXTURE UNIT	CWP (INCH)	HWP (INCH)
SHOWER	1/2	1/2
WATER CLOSET	1/2	-
LAVATORY	1/2	1/2
KITCHEN SINK	1/2	1/2
DISHWASHER	-	1/2
BATHTUB	1/2	1/2
LAUNDRY MACHINE	1/2	1/2

PLUMBING SHEET NOTES

SHEET NOTES:

- 1 → 1" Ø DCW FROM MUNICIPALITY.
- 2 → DCW, DHW & HWR UP IN WALL TO ABOVE FLOOR.
- 3 → DCW, DHW & HWRP DOWN IN WALL TO UNDER TILES LEVEL.
- 4 → DCW, DHW & DHC FROM BELOW FLOOR.
- 5 → DCW, DHW & RHWP UP IN WALL TO HIGH LEVEL.
- 6 → DCW / DHW DOWN IN WALL TO FIXTURE CONNECTION.
- 7 → WATER METER FOR EACH UNIT

InnoDez

CLIENT:

ADDRESS:

CITY OF FRESNO CALIFORNIA

CONFIDENTIALITY STATEMENT:

ALL DRAWINGS AND WRITTEN MATERIALS
APPEARING HEREIN CONSTITUTE THE
ORIGINAL AND UNPUBLISHED WORK OF THE
DESIGNER AND THE SAME MAY NOT BE
DUPLICATED, USED OR DISCLOSED WITHOUT
CONSENT OF THE DESIGNER.

NOTES:

1. ALL DIMENSIONS HEREIN ARE IN IMPERIAL UNITS UNLESS STATED OTHERWISE.
2. THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT DESIGNER, ENGINEER OR SPECIALIST DRAWINGS AND SPECIFICATIONS.
3. THE CONTRACTOR MUST CHECK ALL DIMENSION AT SITE BEFORE COMMENCING WORK.
4. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY TEMPORARY SUPPORT TO THE BUILDING AND ANY ADJACENT STRUCTURES.



REV.	NO.	DESCRIPTION	DATE	BY
02		FOR APPROVAL	06.22	MIN
01		FOR APPROVAL	03.22	MIN
00		FOR APPROVAL	12.21	MIN

PROJECT:

ADU PROGRAM

TITLE:
WATER SUPPLY LAYOUT
UNIT 2

PROJ. NO.	PROJ. ENGR.	SCALE @ 24X36:
-----------	-------------	----------------

DRAWING NO.

2

Address: Foxbrough pl
Pleasanton, CA. 94566
Phone: (424) 414-0997
Web site: www.innodez.com
Email: hello@innodez.com

CLIENT:

ADDRESS:
CITY OF FRESNO CALIFORNIA

CONFIDENTIALITY STATEMENT:

ALL DRAWINGS AND WRITTEN MATERIALS
APPEARING HEREIN CONSTITUTE THE
ORIGINAL AND UNPUBLISHED WORK OF THE
DESIGNER AND THE SAME MAY NOT BE
DUPLICATED, USED OR DISCLOSED WITHOUT
CONSENT OF THE DESIGNER.

NOTES:

1. ALL DIMENSIONS HEREIN ARE IN IMPERIAL UNITS UNLESS STATED OTHERWISE.
2. THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT DESIGNER, ENGINEER OR SPECIALIST DRAWINGS AND SPECIFICATIONS.
3. THE CONTRACTOR MUST CHECK ALL DIMENSION AT SITE BEFORE COMMENCING WORK.
4. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY TEMPORARY SUPPORT TO THE BUILDING AND ANY ADJACENT STRUCTURES.



REV. NO.	DESCRIPTION	DATE	BY
02	FOR APPROVAL	06.22	MN
01	FOR APPROVAL	03.22	MN
00	FOR APPROVAL	12.21	MN

PROJECT:
ADU PROGRAM

TITLE:
GAS LAYOUT
UNIT 2

PROJ. NO. 2104
PROJ. ENGR.
SCALE @ 24X36:
1/4"=1'-0"

DRAWING NO. P 1 . 0 2
REV. 2

PLUMBING SHEET NOTES

SHEET NOTES:

- 1 —→ GAS METER
- 2 —→ GAS CONNECT TO GAS WATER HEATER
- 3 —→ GAS CONNECT TO OVEN

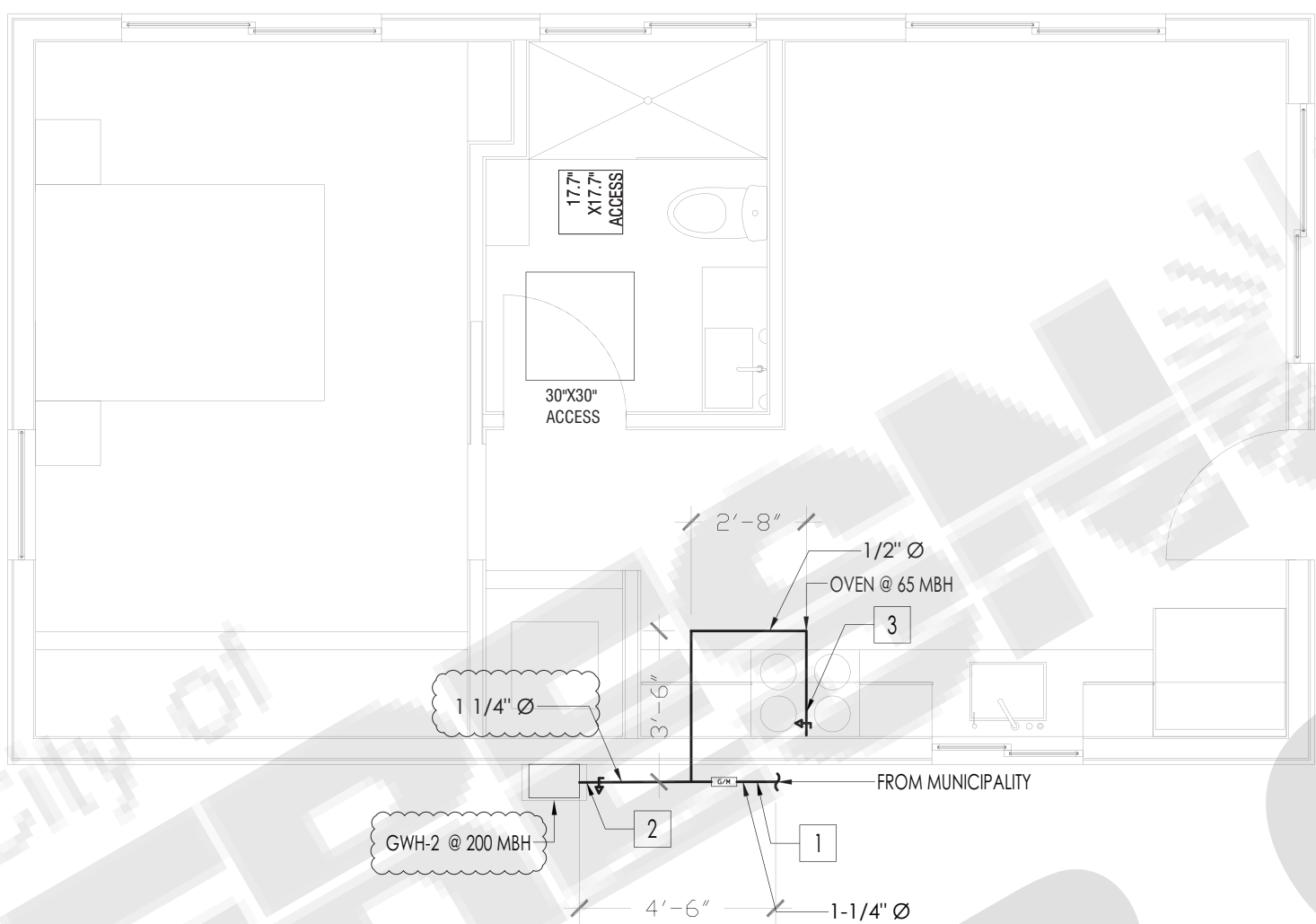
SIZED PER TABLE 1215.2(1) FROM THE CPC 2019

GENERAL NOTES:

1. PRIOR TO PERFORMING WORK, CONTRACTOR TO COORDINATE EXACT PIPE SIZES, INVERT ELEVATIONS, PRESSURES FOR LOCATIONS OF ANY SEWER, WATER PIPING AND WATER METER WITH CIVIL UTILITIES DRAWINGS, AND ANY OTHER ENGINEER AS APPLICABLE.
2. PRIOR TO PERFORMING WORK, CONTRACTOR TO COORDINATE PIPE ROUTING WITH ALL OTHER TRADES AND EXISTING FIELD CONDITIONS.
3. REFER TO MECHANICAL PLANS FOR PLUMBING SPECIFICATION OF MATERIAL, INSULATION AND INSTALLATION REQUIREMENTS.
4. CONTRACTOR IS RESPONSIBLE FOR ROUGH-IN COORDINATION AND LOCATIONS. REFER TO ARCHITECTURAL PLANS FOR LOCATIONS AND FIXTURES.
5. CONTRACTOR IS RESPONSIBLE FOR ANY REQUIRED CUTTING AND PATCHING.
6. ALL NOTCHING, BORING, AND CUTTING OF HOLES IN WALL STUDS AND FLOOR JOISTS SHALL BE PERFORMED BASED ON THE LATEST ADOPTED AND APPROVED EDITION OF THE BUILDING CODE.
7. ALL PLUMBING FIXTURES SHALL BE OF WATER CONSERVATION TYPE AS REQUIRED BY LOCAL AUTHORITY HAVING JURISDICTION.
8. ALL WATER PIPING SHALL BE INSTALLED ON INTERIOR SIDE OF THE BUILDING WALL INSULATION.
9. CONTRACTOR SHALL PROVIDE VALVES LOCATED ABOVE LAY-IN CEILING OR 24"x24" CEILING ACCESS PANEL COORDINATE FINAL LOCATION AND SIZE WITH ARCHITECT. PROVIDE BALANCING VALVES FOR HOT WATER RETURN SYSTEM AS REQUIRED.
10. ALL SANITARY DRAINAGE PIPING 3" AND SMALLER SHALL BE SLOPED AT $\frac{1}{8}$ " PER FOOT. PIPING 4" AND LARGER SHALL BE SLOPED AT $\frac{1}{8}$ " PER FOOT.
11. ALL CONDENSATE DRAIN PIPING SHALL BE SLOPED AT $\frac{1}{8}$ " PER FOOT AND PROVIDE ACCESSIBLE CLEANOUTS AT ALL CHANGES OF DIRECTION.
12. VENTS THAT TERMINATE AT THE ROOF SHALL BE A MINIMUM OF 10' FROM ANY FRESH AIR INTAKE.
13. REFER TO THE PLUMBING DIAGRAMS FOR GUIDANCE OF INSTALLATION INTENT. CONTRACTOR IS TO PROVIDE ALL COMPONENTS NECESSARY TO MEET THE DESIGN INTENT, WHETHER SHOWN IN DIAGRAM OR NOT.

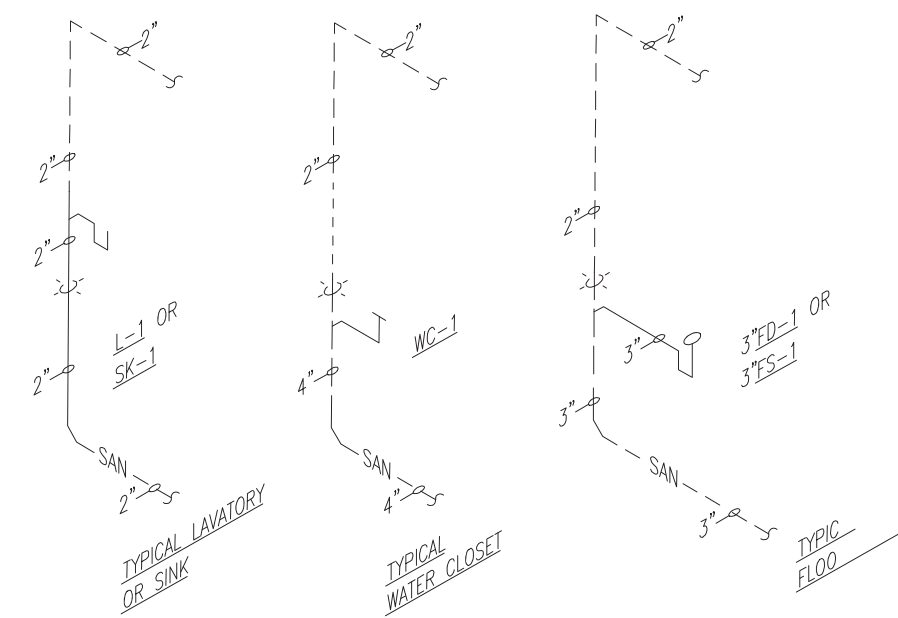
BUILDING GAS LOADS

SERVICE	INPUT CAPACITY	PIPE SIZE
GAS WATER HEATER	200 MBH	1-1/4 INCH
BURNER	65 MBH	3/4 INCH
TOTAL	265 MBH	1 1/4 INCH

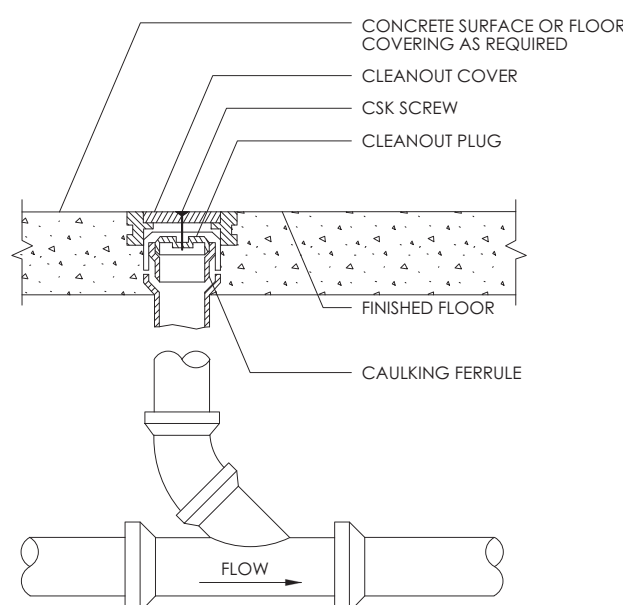


UNIT 02

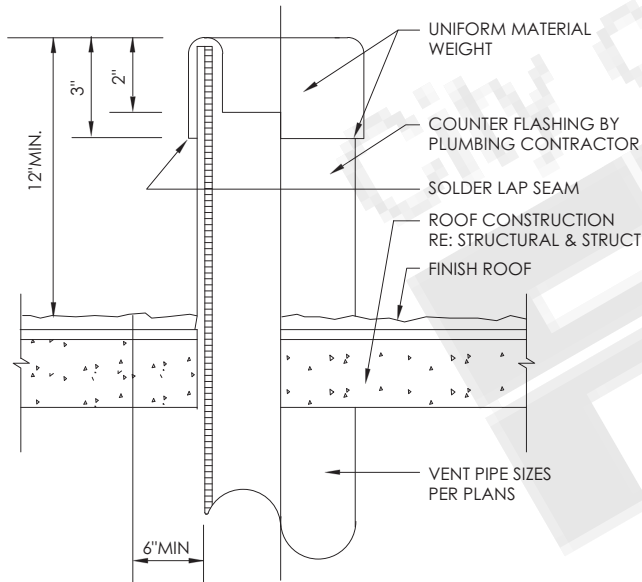
1- WHEN DEVELOPMENT LENGTH EXCEEDS 175 FEET THE GAS SERVICE DESIGN WILL BE REVIEWED AT TIME OF LOT SPECIFIC BUILDING PERMIT APPLICATION.



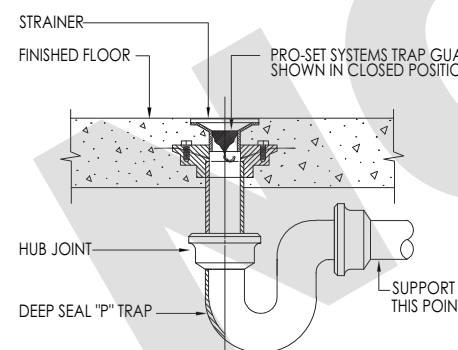
1 TYPICAL WASTE AND VENT RISERS
SCALE: NONE



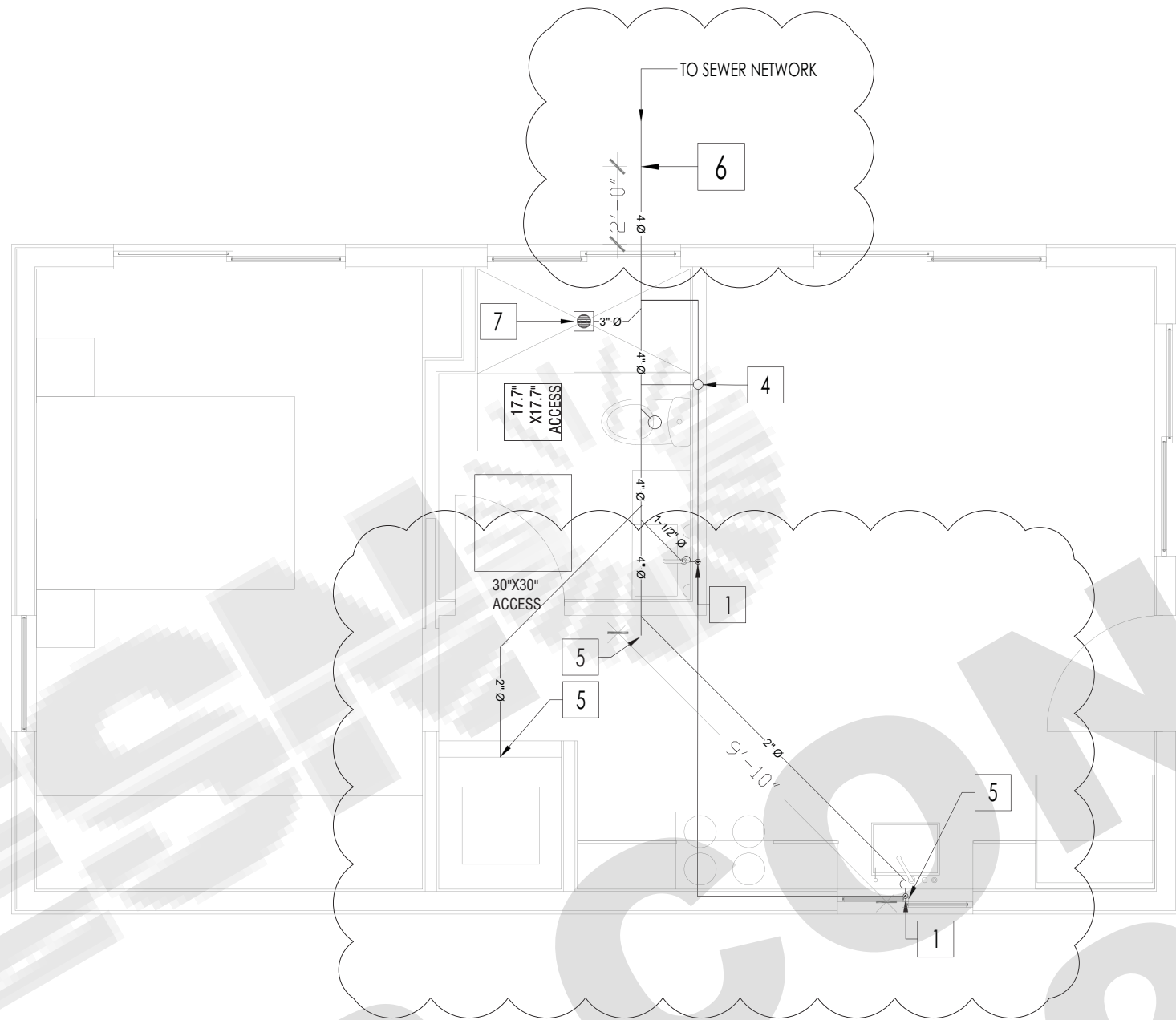
2 FLOOR CLEANOUT DETAIL
NO SCALE



3 VENT THRU ROOF DETAIL
NO SCALE



4 FLOOR DRAIN WITH TRAP SEAL PROTECTION
SCALE: NONE



UNIT 02

CPC 707.4: EACH HORIZONTAL DRAINAGE PIPE SHALL BE PROVIDED WITH A CLEANOUT AT ITS UPPER TERMINAL, AND EACH RUN OF PIPING, THAT IS MORE THAN 100 FEET IN TOTAL DEVELOPED LENGTH, SHALL BE PROVIDED WITH A CLEANOUT FOR EACH 100 FEET, OR FRACTION THEREOF, IN LENGTH OF SUCH PIPING. AN ADDITIONAL CLEANOUT SHALL BE PROVIDED IN A DRAINAGE LINE FOR EACH AGGREGATE HORIZONTAL CHANGE IN DIRECTION EXCEEDING 135 DEGREES. A CLEANOUT SHALL BE INSTALLED ABOVE THE FIXTURE CONNECTION FITTING, SERVING EACH URINAL, REGARDLESS OF THE LOCATION OF THE URINAL IN THE BUILDING.

Dia of Pipe (Inches)	MAXIMUM NUMBER OF DRAINAGE FIXTURE UNITS (dfu)			
	Total for Horizontal Branch	Total Discharge into one branch interval	Total for stack of three branch intervals or less	Total for stack greater than three branch intervals
1 1/2	3	2	4	8
2	6	6	10	24
2 1/2	12	9	20	42
3	20	20	48	72
4	160	90	240	500
5	360	200	540	1,100
6	620	350	960	1,900

FIXTURE TYPE	DRAINAGE FIXTURE UNIT VALUE AS LOAD FACTORS
LAVATORY	1
TOILET, PRIVATE	3
BATHTUB	2
LAUNDRY TRAY	2
FLOOR DRAIN 3 INCH TRAP SIZE	3
KITCHEN SINK, DOMESTIC	2

PLUMBING SHEET NOTES

SHEET NOTES:

- 1 -> 1-1/2" WASTE DROP AND 2" VENT RISE.
- 2 -> 2" VENT RISE TO HIGH LEVEL.
- 3 -> 1-1/2" VENT RISE TO HIGH LEVEL.
- 4 -> 3" VENT STACK TO ABOVE.
- 5 -> CLEAN OUT.
- 6 -> OUTDOOR FLOOR CLEAN-OUT. REFER TO DWG FOR PIPE SIZE.
- 7 -> 3" FLOOR DRAIN.
- 8 -> 4" WASTE DROP FROM FLOOR ABOVE
- 9 -> 4" WASTE DROP TO FLOOR BELOW
- 10 -> 3" ROOF VENT CAP
- 11 -> 3" GAS WATER HEATER CONDENSATE DRAIN

InnoDez

Address: Foxbrough pl
Pleasanton, CA. 94566

Phone: (424) 414-0997

Web site: www.innodez.com

Email: hello@innodez.com

CLIENT:

ADDRESS:

CITY OF FRESNO CALIFORNIA

CONFIDENTIALITY STATEMENT:

ALL DRAWINGS AND WRITTEN MATERIALS APPEARING HEREIN CONSTITUTE THE ORIGINAL AND UNPUBLISHED WORK OF THE DESIGNER AND THE SAME MAY NOT BE DUPLICATED, USED OR DISCLOSED WITHOUT CONSENT OF THE DESIGNER.

NOTES:

1. ALL DIMENSIONS HEREIN ARE IN IMPERIAL UNITS UNLESS STATED OTHERWISE.
2. THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT DESIGNER, ENGINEER OR SPECIALIST DRAWINGS AND SPECIFICATIONS.
3. THE CONTRACTOR MUST CHECK ALL DIMENSION AT SITE BEFORE COMMENCING WORK.
4. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY TEMPORARY SUPPORT TO THE BUILDING AND ANY ADJACENT STRUCTURES.



REV. NO.	DESCRIPTION	DATE	BY
02	FOR APPROVAL	06.22	MN
01	FOR APPROVAL	03.22	MN
00	FOR APPROVAL	12.21	MN

PROJECT:

ADU PROGRAM

TITLE:
DRAINAGE LAYOUT
UNIT 2

PROJ. NO. 2104	PROJ. ENGR.	SCALE @ 24X36: 1/4"=1'-0"
-------------------	-------------	------------------------------

DRAWING NO.

P 1 . 0 3

REV.

2

LIST OF SYMBOLS AND SERVICES			
	WALL MOUNTED LED LIGHTING FIXTURE WITH POWER 15VA		
	LIGHT FIXTURE - CEILING SURFACE (x INDICATES CONTROL REF) WITH POWER 50VA		
	RECESSED MOUNTED ROUND LED LIGHTING FIXTURE SIMILAR TO PHILIPS DH130B D165 1xLED105/840		
	PENDANT LIGHT		
	CEILING MOUNTED FAN INCLUDING LIGHTING		
	WALL SCONCE		
	LINEAR CABINET UNDER-MOUNT LIGHT		
	OUTDOOR FLOOD LIGHT IP67 WITH POWER OF 70VA		
	SURFACE MOUNTED VACANCY DETECTOR		
	LIGHT SWITCH - WALL MOUNTED @ +48" AFF UNLESS NOTED SUBSCRIPTS: 2 = 2-POLE SWITCH 3 = 3 WAY SWITCH 4 = 4 WAY SWITCH D = DIMMER SWITCH K = KEY OPERATED SWITCH M = MOMENTARY CONTACT SWITCH P = SWITCH WITH PILOT LIGHT T = THERMAL OVERLOAD SWITCH		
	120/240V, 1PH, 3W LOAD CENTER		
	SINGLE RECEPTACLE - WALL MOUNTED @ +18" AFF UNLESS NOTED		
	DUPLEX RECEPTACLE - WALL MOUNTED @ +18" AFF UNLESS NOTED		
	QUADRUPLE RECEPTACLE - WALL MOUNTED @ +18" AFF UNLESS NOTED		
	JUNCTION BOX - WALL MOUNTED - HEIGHT AS INDICATED		
	JUNCTION BOX		
	NON-FUSED DISCONNECT SWITCH - SIZE AS INDICATED		
	CONDUITS IN CEILING		
	CONDUITS UNDER TILES		
INSTALLATION HEIGHTS: h1: 23.622 inches. h2: 43.3071 inches. h3: 47.2441 inches. h4: 70.86 inches. h5: 94.48 inches. h6: 60 inches.			

ELECTRICAL ABBREVIATIONS			
AFF	ABOVE FINISHED FLOOR	HOA	HAND-OFF-AUTOMATIC
AFG	ABOVE FINISHED GRADE	HP	HORSEPOWER
A/C	AMP INTERRUPTING CURRENT	IG	ISOLATED GROUND
AL	ALUMINUM		
ATS	AUTOMATIC TRANSFER SWITCH	JBOX	JUNCTION BOX
BFG	BELOW FINISHED GRADE	KVA	KILOVOLT-AMPS
BKSD	BACKBOARD	KW	KILOWATT
C	CONDUIT	MCC	MOTOR CONTROL CENTER
CU	COPPER	MPC	MINI POWER CENTER
DB	DISTRIBUTION BOARD	NC	NORMALLY CLOSED
(E)	EXISTING TO REMAIN	NEC	NATIONAL ELECTRIC CODE
EA	EACH	NF	NON-FUSED
EM	EMERGENCY	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
EMCS	ENERGY MANAGEMENT CONTROL SYSTEM	NIC	NOT IN CONTRACT
EW	ELECTRIC WATER COOLER	NL	NIGHT LIGHT
		NO	NOT TO SCALE
F	FUSE (DUAL ELEMENT, TIME DELAY)	PB	PULLBOX
FBO	FINISHED BY OTHERS	PNL	PANEL BOARD
FTN	FUSE FERRULE PLATE		
GFCI	GROUND FAULT CIRCUIT INTERRUPTER	(R)	EXISTING TO BE RELOCATED
GND	GROUND	RGS	RIGID GALVANIZED STEEL
W.P	WEATHER PROOF		

GENERAL NOTES:

- ALL WORK AND EQUIPMENT UNDER THIS DIVISION SHALL BE IN STRICT COMPLIANCE WITH THE CODES, STANDARDS AND PRACTICES LISTED HEREIN, AND THEIR RESPECTIVE DATES ARE FURNISHED AS THE MINIMUM LATEST REQUIREMENTS.
A. LIFE SAFETY CODE
B. NATIONAL FIRE PROTECTION ASSOCIATION
C. NATIONAL ELECTRICAL CODE
D. AMERICAN NATIONAL STANDARDS INSTITUTE
E. INSTITUTE OF ELECTRICAL AND ELECTRONIC ASSOCIATION
F. NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION (NEMA)
G. REQUIREMENTS OF LOCAL POWER COMPANY
H. BUILDING CODE
- THE ELECTRICAL INSTALLATION SHALL MEET THE APPROVAL OF THE LOCAL GOVERNING AUTHORITIES AND THE OWNER'S REPRESENTATIVE PRIOR TO ACCEPTANCE.
- REFER TO THE ARCHITECTURAL, MECHANICAL, PLUMBING, FIRE PROTECTION, CIVIL, INTERIOR DESIGN, FOR RELATED INFORMATION AND ADDITIONAL INSTALLATION REQUIREMENTS TO BE CONSIDERED AS PART OF THE ELECTRICAL CONTRACT DOCUMENTS.
- IT IS NOT THE INTENT OF THESE PLANS TO SHOW EVERY MINOR DETAIL OF CONSTRUCTION. THE CONTRACTOR IS EXPECTED TO FURNISH ALL ITEMS FOR A COMPLETE ELECTRICAL SYSTEM, PROVIDE EVERYTHING NECESSARY FOR EQUIPMENT TO BE PLACED IN PROPER WORKING ORDER. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL MINOR ITEMS WHICH ARE OBVIOUSLY NECESSARY TO COMPLETE THE INSTALLATION.
- LIGHT SWITCHES SHALL BE MOUNTED 48 INCHES ABOVE FINISHED FLOOR TO CENTER LINE OF THE DEVICE. UNLESS NOTED OTHERWISE, GANG SWITCHES AND DIMMER WITH A COMMON PLATE WHERE TWO (2) OR MORE ARE INDICATED ADJACENT TO EACH OTHER.
- RECEPTACLES SHALL BE LOCATED 18" ABOVE FINISHED FLOOR TO CENTER LINE OF DEVICE. UNLESS NOTED OTHERWISE, ABOVE-COUNTER RECEPTACLES SHALL BE MOUNTED 6" ABOVE BACK SPLASH TO CENTERLINE OF DEVICE UNLESS NOTED OTHERWISE.
- USE GALVANIZED RIGID STEEL CONDUIT WHERE EPOSED TO EXTERIOR CONDITIONS OR WHERE EXPOSED IN ANY LOCATIONS WHERE SUBJECT TO MECHANICAL DAMAGE. EMT SHALL BE PROVIDED WITH SET SCREW STEEL FITTINGS FOR INSTALLATION IN ALL CONCEALED WALLS AND CEILINGS IN DRY AREAS. ALL CONDUIT FOR LIGHTING PROTECTION SHALL BE PVC, SCHEDULE 40. UNLESS OTHERWISE NOTED, PVC MAY BE USED WHERE BURIED UNDER GRADE AND ENCASED IN CONCRETE SLAB OR WALLS. ALUMINUM CONDUIT IS NOT ALLOWED. EMT CAN BE USED IN DRY AREAS WHEN INSTALLED 10 FEET ABOVE FINISHED FLOOR LEVEL.
- ALL CONDUITS IN PUBLIC SHALL BE CONCEALED UNLESS NOTED OTHERWISE.
- ALL OUTDOOR LIGHTING PERMANENTLY ATTACHED TO THE RESIDENCE OR OTHER BUILDINGS ON THE SAME.
- LOT SHALL BE CONTROLLED BY MANUAL ON AND OFF SWITCH DOES NOT OVERRIDE TO ON, AND ONE OF THE FOLLOWING AUTOMATIC TYPES: (CALIFORNIA ENERGY CODE SECTION 150 (K) (3), TYPES ARE
A. PHOTO CONTROL AND MOTION SENSOR.
B. PHOTO CONTROL AND AUTOMATIC TIME SWITCH CONTROL.
C. ASTRONOMICAL TIME CLOCK THAT AUTOMATICALLY TURNS THE OUTDOOR LIGHTING OFF DURING DAYLIGHT HOURS.
D. ENERGY MANAGEMENT CONTROL SYSTEM (EMCS) THAT PROVIDES THE FUNCTIONALITY OF AN ASTRONOMICAL TIME CLOCK. DOES NOT HAVE AN OVERRIDE OR BYPASS SWITCH THAT ALLOWS THE LUMINAIRE TO BE ALWAYS ON, AND IS PROGRAMMED TO TURN THE OUTDOOR LIGHTING OFF DURING DAYLIGHTS HOUR.
-

ALL outdoor lighting permanently attached to the residence or other buildings on the same. lot shall be controlled by a manual ON and Off switch that does not override to ON, and one of the following automatic control types: (California Energy Code section 150. (k)(3))
a)Photocontrol and motion sensor
b)Photocontrol and automatic time switch control
c)Astronomical time clock that automatically turns the outdoor lighting off during daylight hours
d)Energy management control system (EMCS) that provides the functionality of an astronomical time clock, does not have an override or bypass switch that allows the luminaire to be always ON, and is programmed to turn the outdoor lighting off during daylight hours.

ELECTRICAL SPECIFICATIONS

- DO NOT SCALE DRAWINGS, VERIFY DIMENSIONS IN FIELD PRIOR TO COMMENCEMENT OF WORK.
- WHEREVER THE WORD "PROVIDE" IS USED, IT SHALL MEAN TO "PROVIDE AND INSTALL".
- FINAL CONNECTIONS TO EQUIPMENT SHALL BE PER MANUFACTURER'S APPROVED WIRING DIAGRAMS, DETAILS AND INSTRUCTIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE MATERIALS AND EQUIPMENT COMPATIBLE WITH EQUIPMENT ACTUALLY SUPPLIED.
- IT IS THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS TO ESTABLISH A STANDARD OF QUALITY. THE ENGINEER RESERVES THE RIGHT TO APPROVE METHODS AND MATERIALS NOT REFLECTED HEREIN.
- CONTRACTOR SHALL REVIEW ARCHITECTURAL, STRUCTURAL, MECHANICAL, AND OTHER RELATED DRAWINGS PRIOR TO BID.
- CONTRACTOR SHALL VISIT SITE PRIOR TO BID AND VERIFY THAT CONDITIONS ARE AS INDICATED IN THE CONTRACT DOCUMENTS. CONTRACTOR SHALL INCLUDE IN HIS BID, ANY COSTS REQUIRED TO MAKE HIS WORK MEET THE CONTRACT SCOPE UTILIZING EXISTING CONDITIONS.
- WORK SHALL BE PERFORMED IN A WORKMANLIKE MANNER TO THE SATISFACTION OF THE ARCHITECT.
- WORK, MATERIALS AND EQUIPMENT SHALL CONFORM TO THE LATEST EDITIONS OF LOCAL, STATE AND NATIONAL CODES AND ORDINANCES.
- PROVIDE PERMITS AND INSPECTIONS REQUIRED.
- GUARANTEE THE INSTALLATION AGAINST DEFECTS IN MATERIALS AND WORKMANSHIP WHICH MAY OCCUR UNDER NORMAL USAGE FOR A PERIOD OF ONE YEAR AFTER OWNER'S ACCEPTANCE. DEFECTS SHALL BE PROMPTLY REMEDIED WITHOUT COST TO THE OWNER.
- PROVIDE RECORD DRAWINGS TO ENGINEER. DRAWINGS SHALL INCLUDE ALL ADDENDUM ITEMS, CHANGE ORDERS, ALTERATIONS, REROUTINGS, ETC.
- VERIFY SPECIFIC LOCATION OF EQUIPMENT TO BE FURNISHED BY OTHERS PRIOR TO ROUGH-IN.
- ELECTRICAL SYSTEMS SHALL BE TESTED FOR PROPER OPERATION. IF TESTS SHOW THAT WORK IS DEFECTIVE, CONTRACTOR SHALL MAKE CORRECTIONS NECESSARY AT NO COST TO OWNER.
- RECESSED LIGHT FIXTURES INSTALLED IN GYP. BOARD OR PLASTER CEILINGS SHALL HAVE PLASTER FRAMES INSTALLED PRIOR TO CEILING MATERIAL.
- RECESSED FIXTURES INSTALLED INDOORS SHALL BE THERMALLY PROTECTED.
- SEE DIVISION 15 DRAWINGS FOR LOCATION OF MECHANICAL EQUIPMENT. PROVIDE SERVICE TO AND CONNECT EQUIPMENT AS REQUIRED.
- PROVIDE EQUIPMENT GROUNDING CONDUCTOR IN ALL CONDUITS.
- ALL ELECTRICAL SYSTEMS COMPONENTS SHALL BE LISTED OR LABELED BY U.L. OR OTHER RECOGNIZED TESTING FACILITY.
- WIRE TERMINATION PROVISIONS FOR PANELBOARDS, CIRCUIT BREAKERS, SAFETY SWITCHES, AND ALL OTHER ELECTRICAL APPARATUS SHALL BE LISTED AS SUITABLE FOR 75 DEGREE C.
- THE FOLLOWING CONDUCTOR SIZES SHALL BE UTILIZED FOR 20 AMP CIRCUITS PERTAINING TO DISTANCES (IN FEET) INDICATED:

120VOLT, 1PH	CONDUCTOR	240 VOLT, (1PH)
0-64	#12AWG	0-129
65-106	#10AWG	130-212
107-160	#8AWG	213-321
- NOTE: BASED ON 75°c COPPER CONDUCTORS INSTALLED IN EMT WITH 16AMP LOAD @ 85% P.F.
- CONTRACTOR SHALL REVIEW ARCHITECTURAL, STRUCTURAL AND MECHANICAL DRAWINGS AND SHALL PROVIDE LIGHTS, SWITCHES, RECEPTACLES, EQUIPMENT CONNECTIONS, ETC., AND ASSOCIATED CIRCUITING IN NEW AND REMODELED AREAS, EVEN IF SUCH AREAS ARE NOT SHOWN ON ELECTRICAL DRAWINGS. LAYOUTS, FIXTURE TYPES, QUANTITIES AND SPACING SHALL BE IN ACCORDANCE WITH SIMILAR AREAS ON THIS PROJECT. CONTRACTOR SHALL INCLUDE COSTS FOR THE ABOVE IN HIS BID. IN ADDITION, CONTRACTOR SHALL PROVIDE LAYOUT DRAWINGS FOR WORK IN SUCH AREAS AND SUBMIT FOR APPROVAL PRIOR TO ROUGH-IN.
- WIRE SHALL BE COPPER, 75 DEGREES C RATED FOR GENERAL USE. FOR WIRING WITHIN 3 INCHES OF FLUORESCENT BALLASTS WIRE SHALL BE COPPER, MINIMUM 90 DEGREES C RATED. SIZES INDICATED ARE FOR INSTALLATION IN A MAXIMUM 30 DEGREES C AMBIENT. CONDUCTOR AMPACITY SHALL BE DERATED FOR HIGHER AMBIENT INSTALLATIONS. 600 VOLT COMPACT ALUMINUM WIRE AND CABLE IN SIZES 1/0 AND LARGER MAY BE SUBSTITUTED FOR COPPER ON SERVICES AND FEEDERS IF AMPACITY IS EQUIVALENT TO OR GREATER
- CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING EQUIPMENT WHICH IS DAMAGED DUE TO INCORRECT FIELD WIRING PROVIDED UNDER THIS SECTION OR FACTORY WIRING IN EQUIPMENT PROVIDED UNDER THIS SECTION.
- CONTRACTOR'S FAILURE TO ORDER OR RELEASE ORDER FOR MATERIALS AND/OR EQUIPMENT WILL NOT BE ACCEPTED AS A REASON TO SUBSTITUTE ALTERNATE MATERIALS, EQUIPMENT OR INSTALLATION METHODS.
- ELECTRICAL SYSTEMS SHALL BE COMPLETE, OPERABLE AND READY FOR CONTINUOUS OPERATION AT COMPLETION OF PROJECT.
- RECEPTACLES WHICH ARE SHOWN WALL MOUNTED ON THE ELECTRICAL DRAWINGS ON WALLS WHICH, ON THE ARCHITECTURAL DRAWINGS AND ELEVATIONS ARE SHOWN AS GLASS OR PARTITIONS, SHALL BE FLUSH FLOOR DUPLEX RECEPTACLES MOUNTED ADJACENT TO BAS OR WALLS.
- RECEPTACLES AT COUNTER SHALL BE MOUNTED WITH THEIR LONG AXIS HORIZONTAL AT +46" UNLESS NOTED.
- FLUSH FLOOR RECEPTACLE OUTLETS SHALL BE WIREMOLD 862 SERIES. PROVIDE CARPET OR TILE FLANGE TO MATCH FLOOR FINISH.
- THE COLOR OF THE DEVICES AND COVER PLATES SHALL BE AS DIRECTED BY ARCHITECT. IN DAMP OR WET LOCATIONS COVER PLATES SHALL BE STAINLESS STEEL. IN DRY LOCATIONS COVER PLATES SHALL BE SMOOTH HIGH ABUSE NYLON OR EQUIVALENT. PROVIDE COVER PLATES FOR SWITCHES, RECEPTACLES, TELEPHONE, TELEVISION, COMPUTER AND J-BOX OUTLETS AS REQUIRED.
- ROMEX CABLE WITH A GROUNDING CONDUCTOR MAY BE USED WHERE PERMITTED BY BOTH THE N.E.C. AND LOCAL ORDINANCES.
- DISCONNECT SWITCHES SHALL BE GENERAL DUTY TYPE. FUSIBLE SWITCHES SHALL ACCEPT CLASS 'R' FUSES ONLY AND REJECT ALL OTHERS.
- FINAL CONNECTIONS TO VIBRATING EQUIPMENT SHALL BE WITH FLEX (LIQUIDTIGHT FOR EXTERIOR APPLICATIONS) AND APPROVED FITTINGS. DO NOT SECURE CONDUITS, DISCONNECTS OR DEVICES TO DUCTWORK OR MECHANICAL EQUIPMENT.
- THE ENGINEER OF RECORD HAS PERFORMED SHORT CIRCUIT CALCULATIONS AND THE AIC RATINGS INDICATED FOR EACH DEVICE IS ADEQUATE TO PROTECT THE EQUIPMENT AND THE ELECTRICAL SYSTEM.
- THE ENGINEER OF RECORD HAS PERFORMED VOLTAGE DROP CALCULATIONS AND ALL BRANCH CIRCUITS AND FEEDERS COMPLY WITH NEC 210-19(A) FPN NO4.
- THE CONTRACTOR SHALL PROVIDE 120V CONNECTION TO NEAREST MAINTENANCE RECEPTACLE WHERE REQUIRED FOR CONDENSATE PUMPS ASSOCIATED WITH FAN COIL UNITS. COORDINATE WITH MECHANICAL CONTRACTOR.
- THE CONTRACTOR SHALL COORDINATE THE SPECIFIC LOCATION, MOUNTING HEIGHT, ROTATION, TYPE, COLOR, ETC. OF ALL DEVICES PRIOR TO INSTALLATION.
- CONNECTIONS TO HYDROMASSAGE BATHTUBS, JACUZZI TUBS OR SIMILAR EQUIPMENT SHALL BE MADE IN ACCORDANCE WITH ARTICLE 680.70 OF THE CEC 2019. PROVIDE BONDING AS REQUIRED BY ARTICLE 680.74 OF THE CEC 2019.
- ALL INDOOR FLUORESCENT FIXTURES THAT UTILIZE DOUBLE-ENDED LAMPS AND CONTAIN BALLAST(S) THAT CAN BE SERVICED IN PLACE OR BALLASTED LUMINARIES THAT ARE SUPPLIED FROM MULTIWIRED BRANCH CIRCUITS AND CONTAIN BALLAST(S) THAT CAN BE SERVICED IN PLACE SHALL COMPLY WITH 410.73 (G) OF THE CEC 2019.
- CEILING MOUNTED SMOKE AND CARBON MONOXIDE DETECTORS MUST COMPLY WITH U.L. 2075 AND SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS.
- ALL SMOKE DETECTORS AND COMBINATION SMOKE/CARBON MONOXIDE DETECTORS SHALL BE HARDWIRED ON SAME CIRCUIT AND HAVE A BATTERY BACKUP SYSTEM.
- WHEN MORE THAN EITHER ONE (1) SMOKE ALARM OR MORE THAN ONE (1) CARBON MONOXIDE ALARM IS REQUIRED TO BE INSTALLED WITHIN AN INDIVIDUAL DWELLING UNIT, ALL ALARM DEVICES SHALL BE INTERCONNECTED IN SUCH A MANNER THAT THE ACTUATION OF ONE ALARM WITH ACTIVATE ALL OF THE ALARMS IN THE INDIVIDUAL UNIT. SMOKE AND CARBON MONOXIDE ALARMS SHALL BE INSTALLED IN THE FOLLOWING LOCATIONS:
 - SMOKE ALARMS IN EACH SLEEPING ROOM.
 - SMOKE ALARMS OUTSIDE OF EACH SEPARATE SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOMS.
 - SMOKE ALARMS ON EACH ADDITIONAL STORY OF THE DWELING INCLUDING BASEMENTS BUT NOT INCLUDING CRAWL SPACE AND UNINHABITABLE ATTICS. IN DWELLINGS OR DWELLING UNITS WITH SPLIT LEVELS AND WITHOUT AN INTERVENING DOOR BETWEEN THE ADJACENT LEVELS, A SMOKE ALARM INSTALLED ON THE UPPER LEVEL SHALL SUFFICE FOR THE ADJACENT LOWER LEVEL PROVIDED THAT THE LOWER LEVEL IS LESS THAN ONE FULL STORY BELOW THE UPPER LEVEL..
 - CARBON MONOXIDE ALARMS OUTSIDE OF SLEEPING AREAS IN THE IMMEDIATE VICINITY OF THE BEDROOMS IN DWELLING UNITS WITHIN WHICH FUEL-FIRED APPLIANCES ARE INSTALLED AND IN DWELLING UNITS THAT HAVE ATTACHED GARAGES.
 - CARBON MONOXIDE ALARMS WITHIN EACH BEDROOM WHICH CONTAINS A FUEL-FIRED APPLIANCE.
- ALL BRANCH CIRCUITS THAT SUPPLY 125-VOLT, SINGLE PHASE, 15 AND 20 AMP BRANCH CIRCUITS SUPPLYING OUTLETS INSTALLED IN DWELLING UNIT FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, PARLORS, LIBRARIES, DENS, BEDROOMS, SUNROOMS, RECREATION ROOMS, CLOSETS, HALLWAYS, OR SIMILAR ROOMS OR AREAS SHALL BE PROTECTED BY A LISTED ARC-FAULT CIRCUIT INTERRUPTER, COMBINATION-TYPE, INSTALLED TO PROVIDE PROTECTION OF THE BRANCH CIRCUIT. CEC 2019 ARTICLE 210.12 (A).
- ALL ATTIC ACCESSES SHALL BE PROVIDED WITH A SWITCHED LIGHT AND 120 VOLT GFI OUTLET AT OR NEAR THE FORCED AIR UNIT. LOCATE LIGHT SWITCH AT THE ATTIC ACCESS OPENING.
- ALL RECESSED LED STRIP LIGHTING SALL BE BY KLUS.
- Receptacles inside kitchen shall comply with following:
 - Receptacle outlets shall not be installed in a face up position in the work surfaces.
 - Receptacle outlets shall be located on or above, but not more than 20 in. above the countertop or work surface. (CEC section 210.52(C)(5))
 - Receptacle outlets shall be permitted to be mounted not more than 12 in. below the countertop or worksurface provided the countertop does not extend more than 6 in. beyond its support base. (CEC section 210.52(C)(5) exception)
- Energy management control system (EMCS) that provides the functionality of an astronomical time clock, does not have an override or bypass switch that allows the luminaire to be always ON, and is programmed to turn the outdoor lighting off during daylight hours.

InnoDez

Address: Foxbrough pl
Pleasanton, CA. 94566
Phone: (424) 414-0997
Web site: www.innodez.com
Email: hello@innodez.com

CLIENT:

ADDRESS:

CITY OF FRESNO CALIFORNIA

CONFIDENTIALITY STATEMENT:

ALL DRAWINGS AND WRITTEN MATERIALS
APPEARING HEREIN CONSTITUTE THE
ORIGINAL AND UNPUBLISHED WORK OF THE
DESIGNER AND THE SAME MAY NOT BE
DUPLICATED, USED OR DISCLOSED WITHOUT
CONSENT OF THE DESIGNER.

NOTES:

- ALL DIMENSIONS HEREIN ARE IN IMPERIAL UNITS UNLESS STATED OTHERWISE.
- THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT DESIGNER, ENGINEER OR SPECIALIST DRAWINGS AND SPECIFICATIONS.
- THE CONTRACTOR MUST CHECK ALL DIMENSION AT SITE BEFORE COMMENCING WORK.
- THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY TEMPORARY SUPPORT TO THE BUILDING AND ANY ADJACENT STRUCTURES.



REV. NO.	DESCRIPTION	DATE	BY
02	FOR APPROVAL	06.22	MN
01	FOR APPROVAL	03.22	MN
00	FOR APPROVAL	12.21	MN

PROJECT:

ADU PROGRAM

TITLE: ELECTRICAL SPECS,
LEGENDS & SYMBOLS

PROJ. NO.	PROJ. ENGR.	SCALE @ 24X36:
2104		MTS

DRAWING NO.	REV.
E - 0 . 0 0	2

InnoDez

Address: Foxbrough pl
Pleasanton, CA. 94566

Phone: (424) 414-0997

Web site: www.innodez.com

Email: hello@innodez.com

CLIENT:

ADDRESS:

CITY OF FRESNO CALIFORNIA

CONFIDENTIALITY STATEMENT:

ALL DRAWINGS AND WRITTEN MATERIALS
APPEARING HEREIN CONSTITUTE THE
ORIGINAL AND UNPUBLISHED WORK OF THE
DESIGNER AND THE SAME MAY NOT BE
DUPLICATED, USED OR DISCLOSED WITHOUT
CONSENT OF THE DESIGNER.

NOTES:

1. ALL DIMENSIONS HEREIN ARE IN IMPERIAL UNITS UNLESS STATED OTHERWISE.
2. THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT DESIGNER, ENGINEER OR SPECIALIST DRAWINGS AND SPECIFICATIONS.
3. THE CONTRACTOR MUST CHECK ALL DIMENSION AT SITE BEFORE COMMENCING WORK.
4. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY TEMPORARY SUPPORT TO THE BUILDING AND ANY ADJACENT STRUCTURES.



REV. NO.	DESCRIPTION	DATE	BY
02	FOR APPROVAL	06.22	MN
01	FOR APPROVAL	03.22	MN
00	FOR APPROVAL	12.21	MN

PROJECT:

ADU PROGRAM

TITLE:

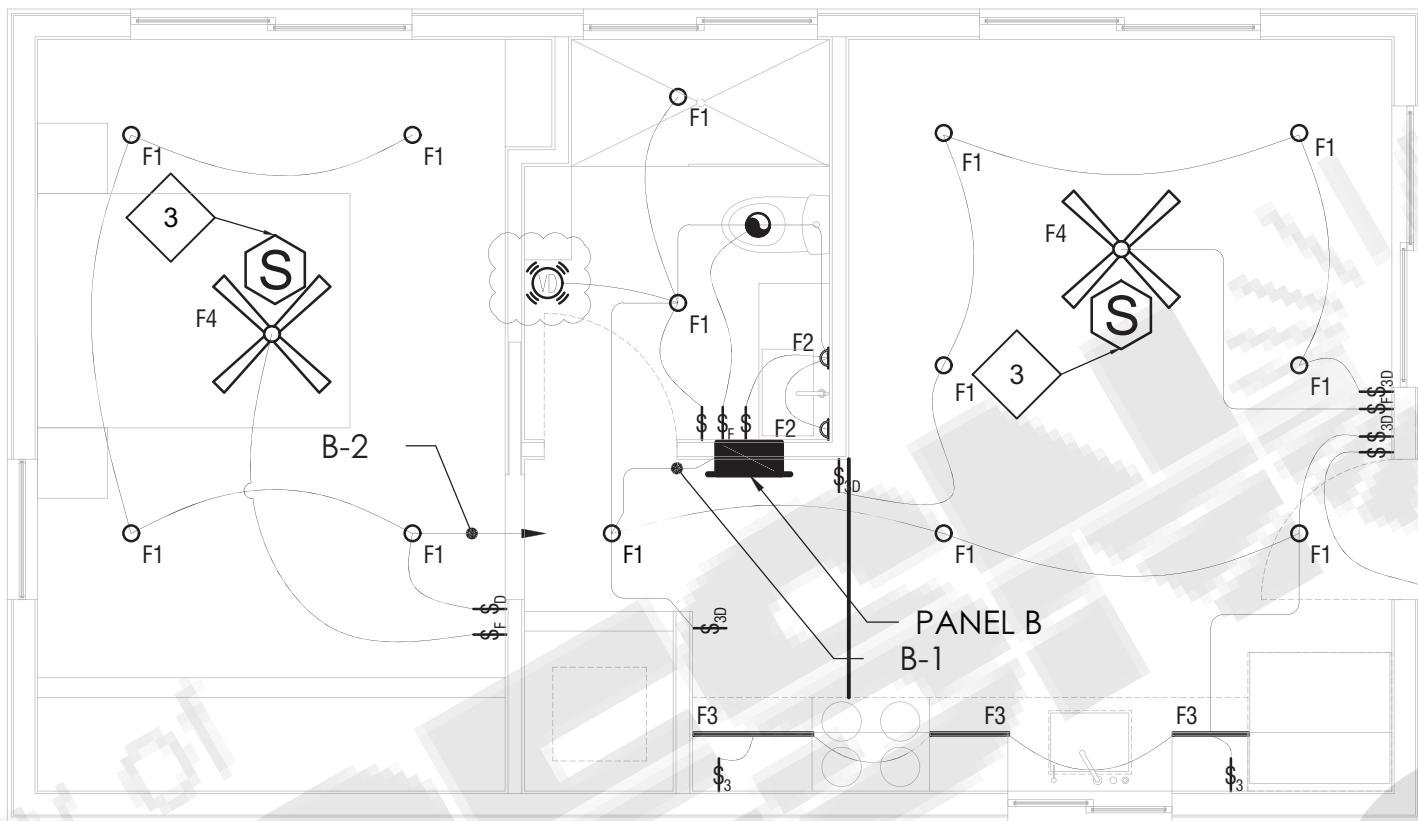
LIGHTING LAYOUT
UNIT 2

PROJ. NO.	PROJ. ENGR.	SCALE @ 24X36:
2104		1/4"=1'-0"

DRAWING NO.	REV.
E - 1 . 0 1	2

SHEET NOTES:

1. PROVIDE HEAVY DUTY JUNCTION BOX, FLUSH IN CEILING SECURED TO STRUCTURE
2. FURNISH AND INSTALL DOOR SWITCH TO ACTIVATE LIGHT WHEN DOOR IS OPENED EQUAL TO CARTER-HOFFMANN #18602-0013
3. FURNISH AND INSTALL SMOKE OR COMBINATION SMOKE AND CARBON MONOXIDE DETECTOR AS REQUIRED. INTERLOCK WITH OTHER DETECTORS



GENERAL NOTES

1. REFER TO FIXTURE SCHEDULE/LEGEND FOR ADDITIONAL INFORMATION ON LIGHT FIXTURES
2. NON LOW VOLTAGE SWITCHES SHALL BE DECORA TYPE WITH SLIDE DIMMER. SWITCHES AND PLATE COLORS SHALL BE WHITE.
3. OUTLET BOXES OR OUTLET BOX SYSTEM USED AS SOLE SUPPORT OF A CEILING SUSPENDED PADDLE FAN SHALL BE LISTED, SHALL BE MARKED BY THEIR MANUFACTURER AS SUITABLE FOR THIS PURPOSE. AND SHALL NOT SUPPORT CEILING-SUSPENDED (PADDLE) FANS THAT WEIGHT MORE THAN 70lb. FOR OUTLET BOXES OUR OUTLET BOX SYSTEM DESIGNED TO SUPPORT CEILING-SUSPENDED (PADDLE) FANS THAT WEIGHT MORE THAN 35 lb. THE REQUIRED MARKING SHALL ICLUDE THE MAXIMUM WEIGHT TO BE SUPPORTED. (CEC 2019 ARTICLE 314.27 (C))
4. IUMINAIRES IN CLOTHES CLOSETS SHALL BE INSTALLED IN ACCORDANCE WITH CEC 2019 ARTICLE 410.16
5. ALL permanently installed lighting fixtures shall be high-efficacy luminaires in accordance with Table 150.0-A of California Energy Code. Provide a complete luminaire schedule on the Electrical plans for all lighting, which specifies luminaire/fixture type and type of lamps for each luminaire/fixture. (CEC 2019 section 150.0(k)(1)(A))
6. ALL 120 VOLTE, SINGL PHASE 15 AND 20 AMPERE BRANCH CIRCUIT SUPPLYINH OUTLETS INSTALLED IN DWELLING UNIT FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, PARLORS, LIBRARIES, DENS, BEDROOMS, SUNROOMS, RECREATION ROOMS, CLOSETS, HALLWAYS, OR SIMILAR AREAS SHALL BE PROTECTED BY A LISTED ARC-FAULT CIRCUIT INTERRUPTER, COMBINATION TYPE INSTALLED TO PROVIDE PROTECTION OF THE BRANCH CIRCUIT. (CEC 2019 ARTICLE 210.12(A))

InnoDez

Address: Foxbrough pl
Pleasanton, CA. 94566

Phone: (424) 414-0997

Web site: www.innodez.com

Email: hello@innodez.com

CLIENT:

ADDRESS:

CITY OF FRESNO CALIFORNIA

CONFIDENTIALITY STATEMENT:

ALL DRAWINGS AND WRITTEN MATERIALS
APPEARING HEREIN CONSTITUTE THE
ORIGINAL AND UNPUBLISHED WORK OF THE
DESIGNER AND THE SAME MAY NOT BE
DUPLICATED, USED OR DISCLOSED WITHOUT
CONSENT OF THE DESIGNER.

NOTES:

1. ALL DIMENSIONS HEREIN ARE IN IMPERIAL UNITS UNLESS STATED OTHERWISE.
2. THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT DESIGNER, ENGINEER OR SPECIALIST DRAWINGS AND SPECIFICATIONS.
3. THE CONTRACTOR MUST CHECK ALL DIMENSION AT SITE BEFORE COMMENCING WORK.
4. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY TEMPORARY SUPPORT TO THE BUILDING AND ANY ADJACENT STRUCTURES.



REV. NO.	DESCRIPTION	DATE	BY
02	FOR APPROVAL	06.22	MN
01	FOR APPROVAL	03.22	MN
00	FOR APPROVAL	12.21	MN

PROJECT:

ADU PROGRAM

TITLE:

POWER LAYOUT
UNIT 2

PROJ. NO. 2104

PROJ. ENGR.

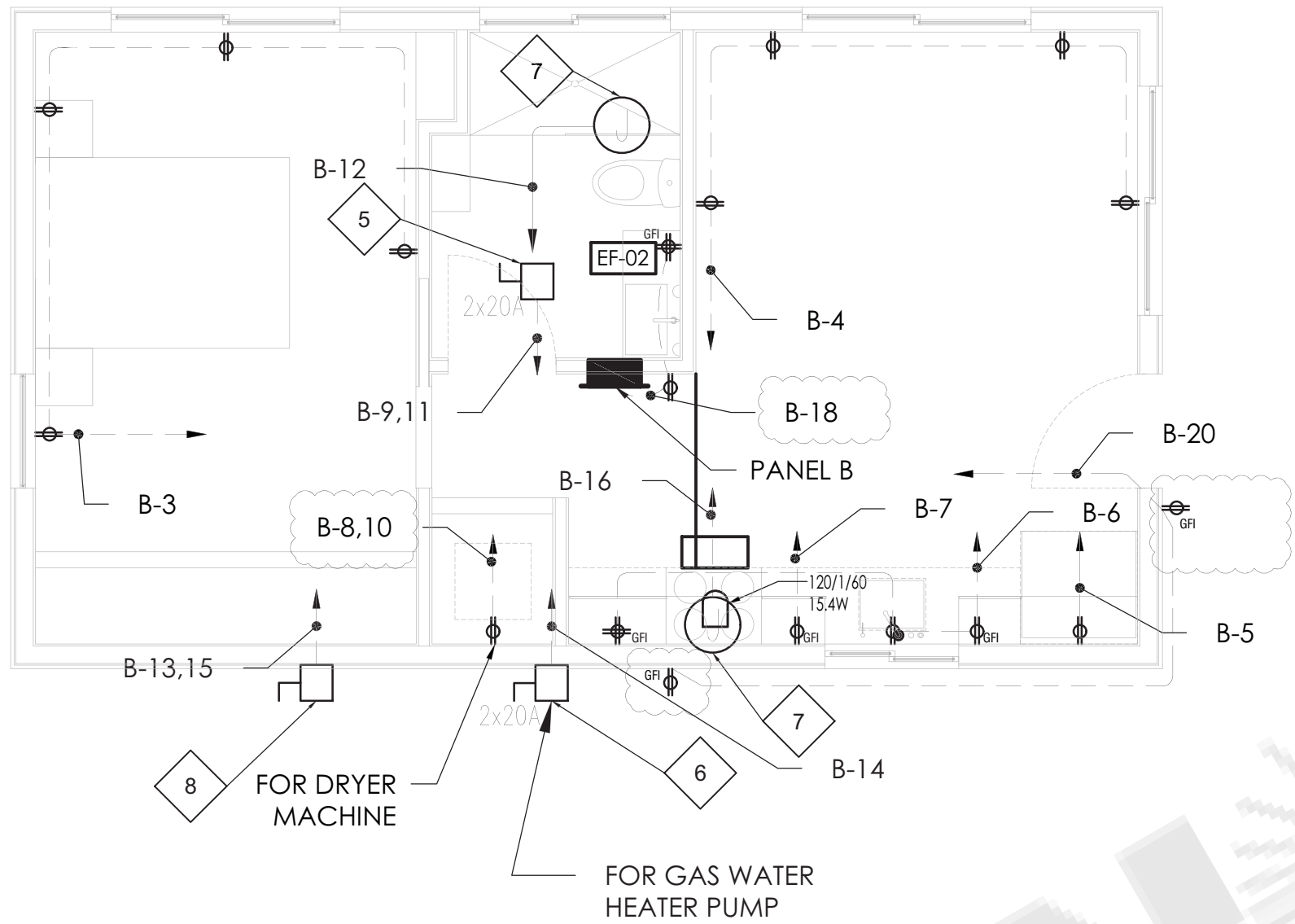
SCALE @ 24X36:
1/4"=1'-0"

DRAWING NO.

E - 2 . 0 1

REV.

2



UNIT 02

SHEET NOTES:

- 3 → ROUTE CABLING FOR AUTOMATIC GARAGE DOOR SENSORS AND PUSH BUTTON
- 5 → DISCONNECT SWITCH FOR INDOOR UNIT
- 6 → JUNCTION BOX FOR HEAT PUMP WATER HEATER
- 7 → JUNCTION BOX FOR EXHAUST FAN
- 8 → DISCONNECT SWITCH FOR OUTDOOR UNIT

GENERAL NOTES

1. ALL 120 VOLTE, SINGL PHASE 15 AND 20 AMPERE BRANCH CIRCUIT SUPPLYINH OUTLETS INSTALLED IN DWELLING UNIT FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, PARLORS, LIBRARIES, DENS, BEDROOMS, SUNROOMS, RECREATION ROOMS, CLOSETS, HALLWAYS, OR SIMILAR AREAS SHALL BE PROTECTED BY A LISTED ARC-FAULT CIRCUIT INTERRUPTER, COMBINATION TYPE INSTALLED TO PROVIDE PROTECTION OF THE BRANCH CIRCUIT. (CEC 2019 ARTICLE 210.12(A))
2. IN EVERY KITCHEN, FAMILY ROOM, DINING ROOM, LIVING ROOM, PARLOR, LIBRARY, DEN, SUNROOM, BEDROOM, RECREATION ROOM OR SIMILAR ROOM OR AREA OF DWELLING UNITS RECEPTACLE OUTLETS SHALL BE INSTALLED IN ACCORDANCE WITH THE GENERAL PROVISIONS SPECIFIED IN THE FOLLOWING ARTICLES.
 - a. CEC 2019 ARTICLE 210.52(A) (1) SPACING. RECEPTACLES SHALL BE INSTALLED SI THAT NO POINT ALONG THE FLOOR LINE OF THE WALL IS MORE THAN 6- FEET FROM A RECEPTACLE.
 - b. CEC 2019 article 210.52(a) (2) AS AMENDED WALL SPACE. ANY WALL 24-INCHES OR MORE IN LENGTH SHALL BE PROVIDED WITH A RECEPTACLE OUTLET. WALL SPACE SHALL INCLUDE AROUND CORNERS, THE FIRST SLIDING PANEL OF A SLIDING DOOR, FIXED ROOM DEVIDERS SUCH AS A FREESTANDING BAR TYPE COUNTER. WALL SPACE NED NOT INCLUDE THE SPACE BEHIND OPERABLE DOORS. AND NEED NOT INCLUDE ENTRIES, HALLWAYS ETC. LESS THAN 5- FEET WIDE LOCATED IN BEDROOMS.
 - c. CEC ARTICLE 210.52(A) (3) AS AMENDED FLOOR RECEPTACLES.
3. IN EVERY KITCHEN, FAMILY ROOM, DINING ROOM, LIVING ROOM, PARLOR, LIBRARY, DEN, SUNROOM, BEDROOM, RECREATION ROOM OR SIMILAR ROOM OR AREA OF DWELLING UNITS, ALL 125 VOLT 15 AND 20 AMP RECEPTACLES SHALL BE LISTED TAMPER-RESISTANT RECEPTACLES CEC 2019 406.12)

Branch Panel: ADU UNIT 02 PANEL B									
Location: ADU ENTRANCE			Volts: 120/208		A.I.C Rating: 38KA				
Supply From: UTILITY METER			Phases: 3		Mains Type: MCCB				
Mounting: Recessed			Wires: 3+1		Mains Rating: 45A				
Enclosure Type 1									
DESCRIPTION	VA	TRIP AMPS	A B C			TRIP AMPS	VA	DESCRIPTION	
Lighting Living Room	370	15	1	2	15	170	Lighting Bed Room		
Sockets Bed Room	1080	20	3	4	20	1080	Sockets Living Room		
Power Socket	1000	20	5	6	20	810	Sockets Kitchen		
Power Socket	1000	20	7	8	20	500	Dryer Machine		
Indoor Unit	629.72	20	9	10	20	500	Toilet Exhaust Fan		
	629.72	20	11	12	20	30	Tollet Exhaust Fan		
Outdoor Unit	2123.06	20	13	14	20	180	Gas Water Heater Pump		
	2123.06	20	15	16	20	20	Kitchen Hood		
Spare		20	17	18	20	540	Socket Toilet & Living Room		
Spare		20	19	20	20	540	Sockets Outdoor		
Spare		20	21	22	20		Spare		
Spare		20	23	24			Spare		
Spare		20	25	26			Spare		
Spare		20	27	28			Spare		
Spare		20	29	30			Spare		

CLIENT:

ADDRESS:
CITY OF FRESNO CALIFORNIA

CONFIDENTIALITY STATEMENT:

ALL DRAWINGS AND WRITTEN MATERIALS
APPEARING HEREIN CONSTITUTE THE
ORIGINAL AND UNPUBLISHED WORK OF THE
DESIGNER AND THE SAME MAY NOT BE
DUPLICATED, USED OR DISCLOSED WITHOUT
CONSENT OF THE DESIGNER.

NOTES:

1. ALL DIMENSIONS HEREIN ARE IN IMPERIAL UNITS UNLESS STATED OTHERWISE.
2. THESE DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL RELEVANT DESIGNER, ENGINEER OR SPECIALIST DRAWINGS AND SPECIFICATIONS.
3. THE CONTRACTOR MUST CHECK ALL DIMENSION AT SITE BEFORE COMMENCING WORK.
4. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY TEMPORARY SUPPORT TO THE BUILDING AND ANY ADJACENT STRUCTURES.



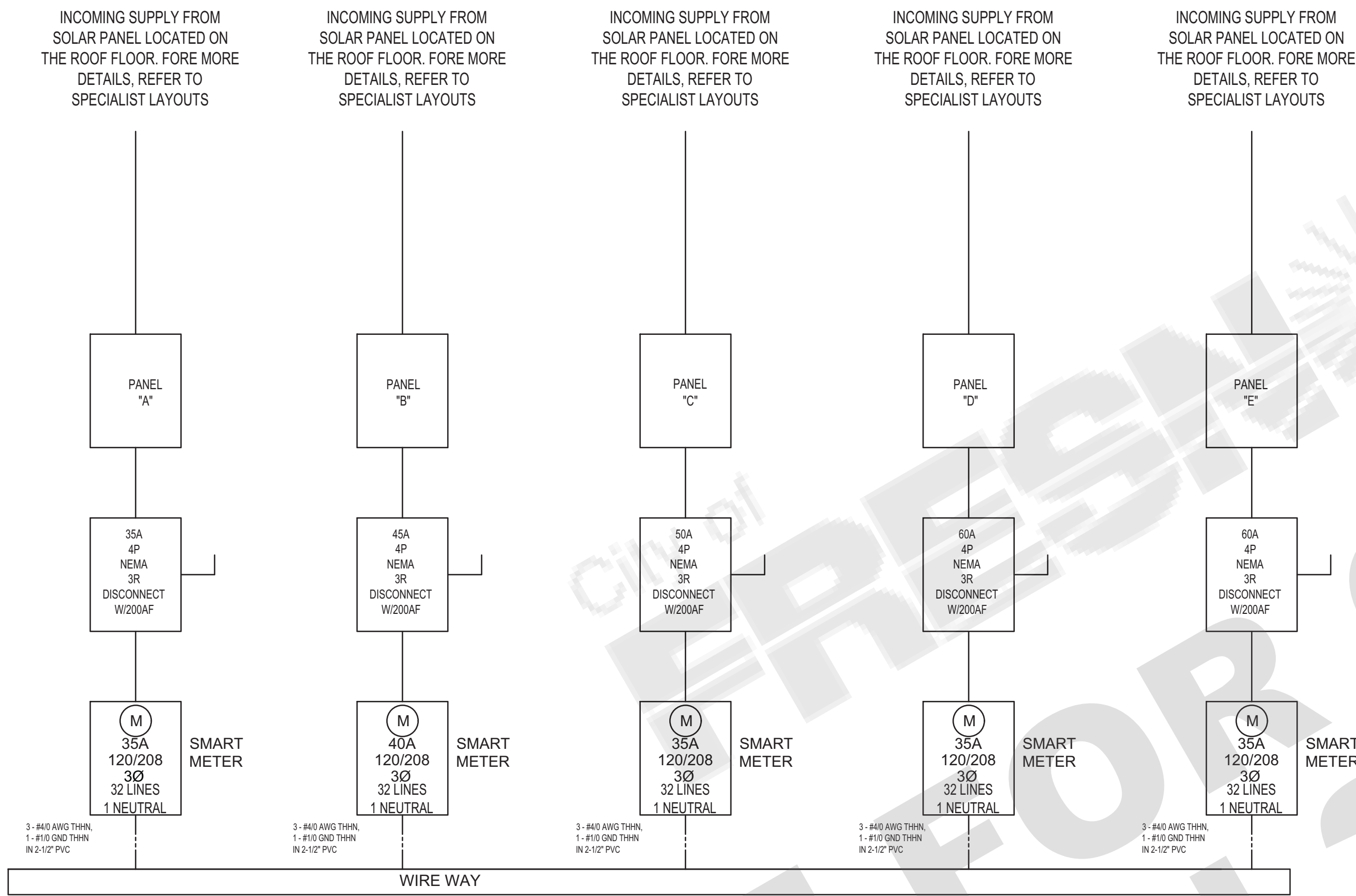
REV. NO.	DESCRIPTION	DATE	BY
02	FOR APPROVAL	06.22	MN
01	FOR APPROVAL	03.22	MN
00	FOR APPROVAL	12.21	MN

PROJECT:
ADU PROGRAM

TITLE:
ELECTRICAL SINGLE
LINE DIAGRAM

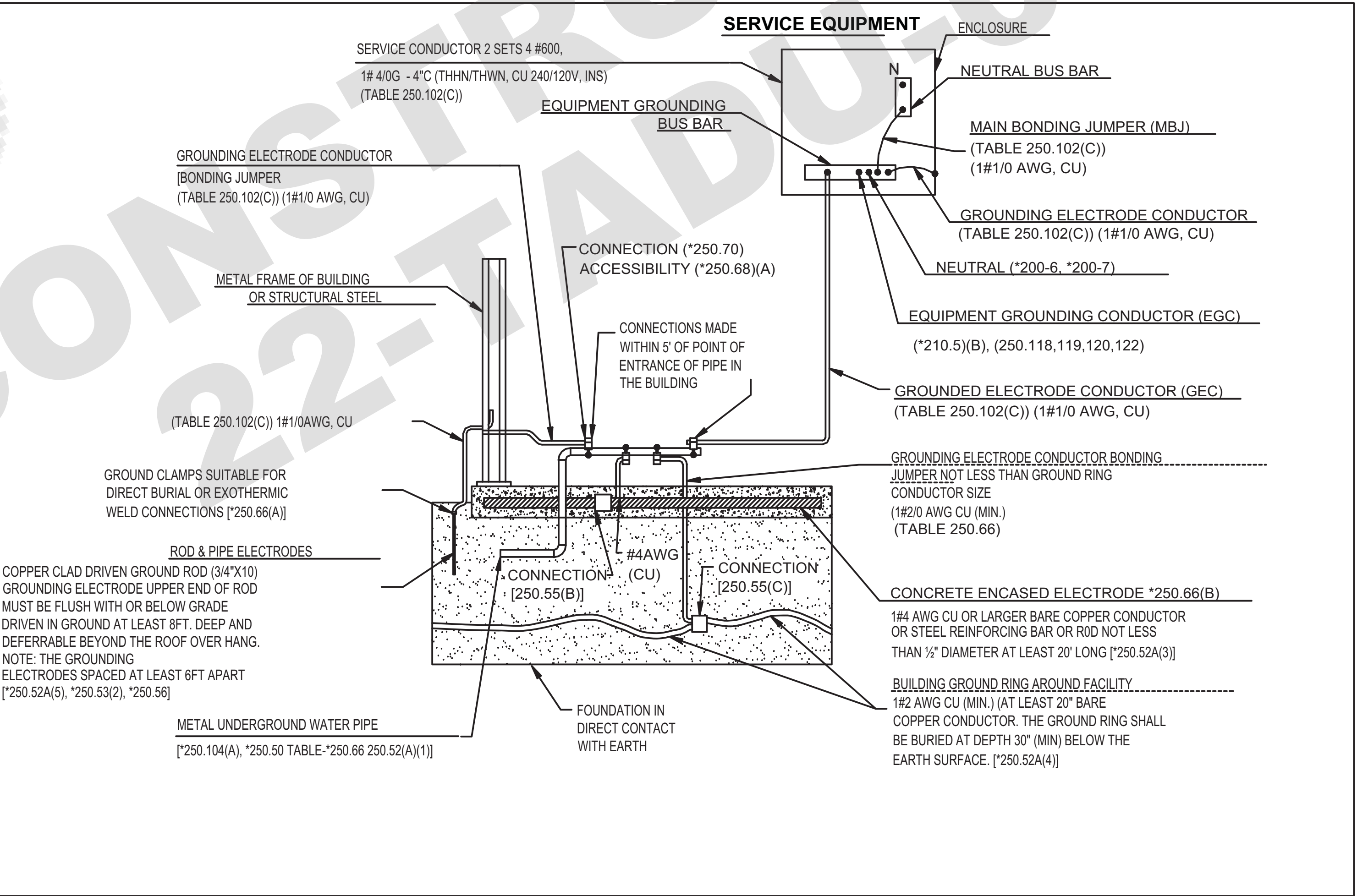
PROJ. NO. 2104
PROJ. ENGR. NTS
SCALE @ 24X36:

DRAWING NO. E - 0 . 0 1
REV. 2



UFER GROUND NOTE :

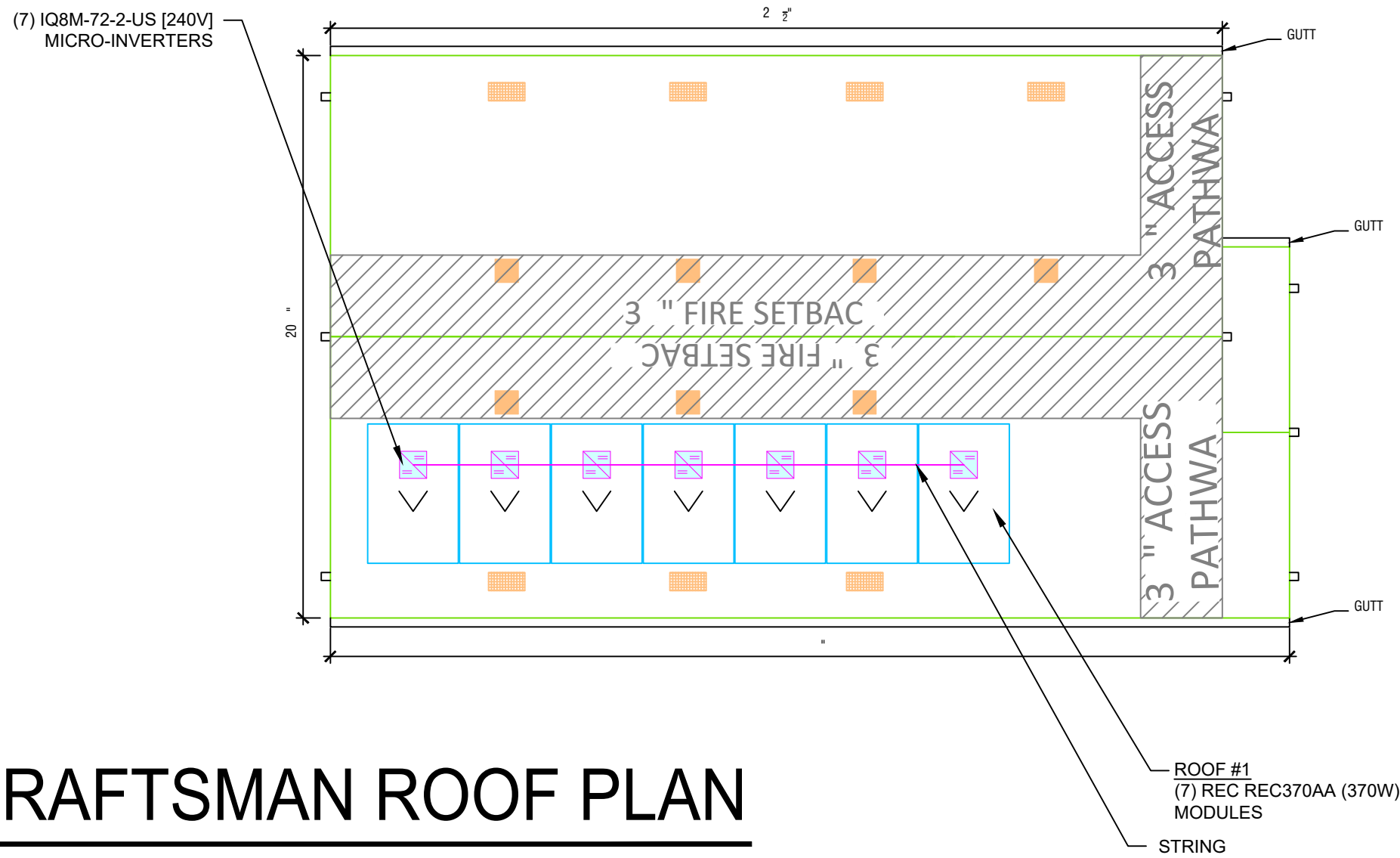
ALL STEEL REBARS MEASURING 1/2 " OR MORE IN DIAMETER AND 20 ' OR LONGER IN LENGTH THAT IS ENCASED IN NOT LESS THAN 2 INCHES OF CONCRETE SHALL BE BONDED TO THE BUILDING'S GROUNDING ELECTRODE SYSTEM IN ACCORDANCE WITH CEC 250 (ELECTRICAL SUB CODE) SECTION 250.52(A)(3). THE "UFER" GROUND CAN BE 20 L.F. OF #2 OR #4 COPPER WIRING LAID INSIDE THE FOOTING AND THE SAME WIRE IS LONG ENOUGH TO REACH TO THE LOCATION OF THE MAIN ELECTRICAL PANEL OF THE HOUSE. UFER GROUND CAN BE (1) L-SHAPED PIECE OF #4 STEEL REBAR CONNECTED TO THE OTHER STEEL REBAR IN THE FOOTING AND STICKING OUT IN SUFFICIENT LENGTH FOR CONNECTION AT THE LOCATION OF THE MAIN ELECTRICAL PANEL OF THE HOUSE



DETAIL "G" OF GROUNDING ELECTRODE SYSTEM (*250.50)
& GROUNDING ELECTRODES (*250.52) AS SERVICE

SCALE: NTS

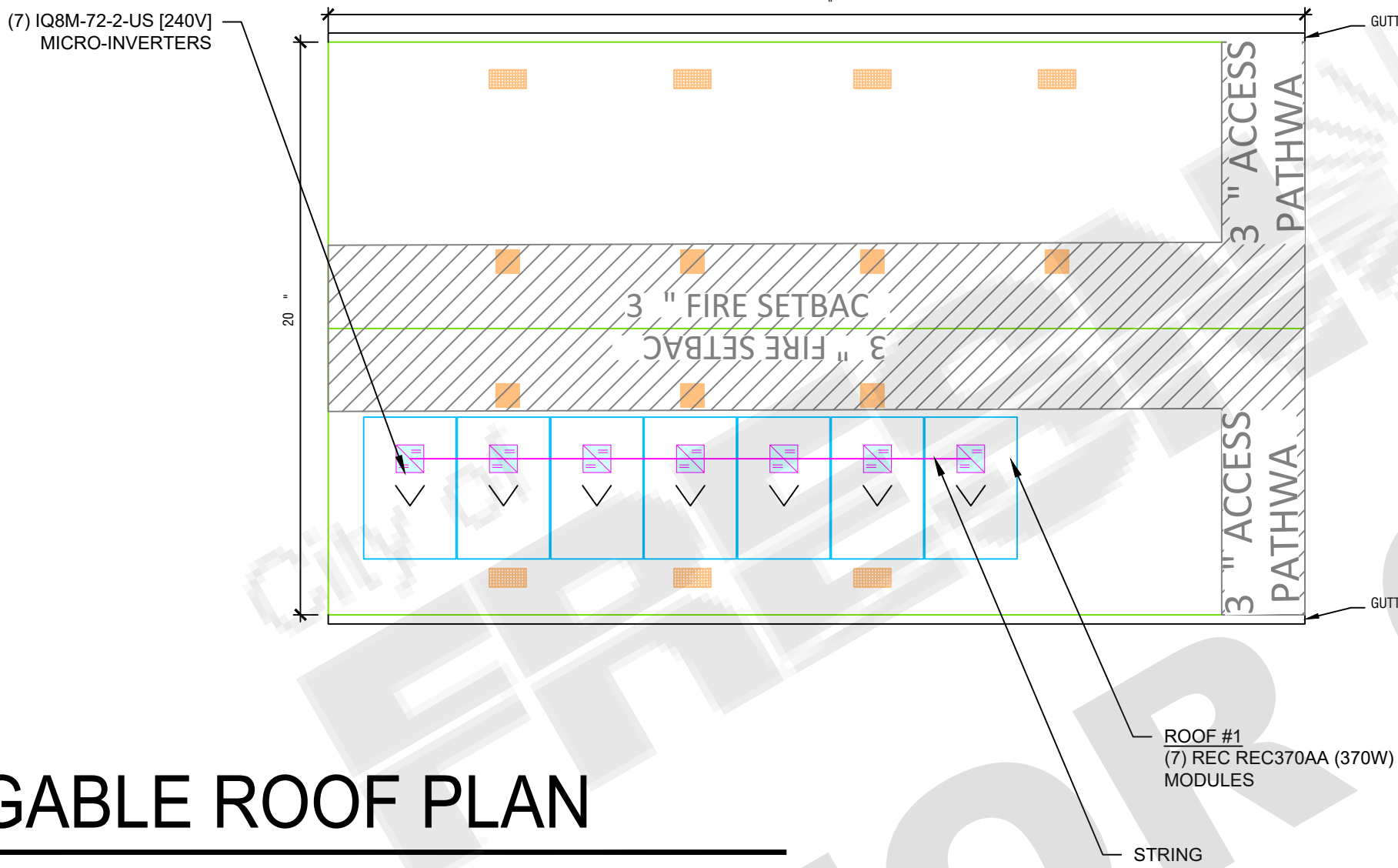
NOTE:
PV ARRAY TO BE ORIENTED
ON EITHER SOUTH OR
WEST FACING ROOF.



PV RACKING CRAFTSMAN ROOF PLAN

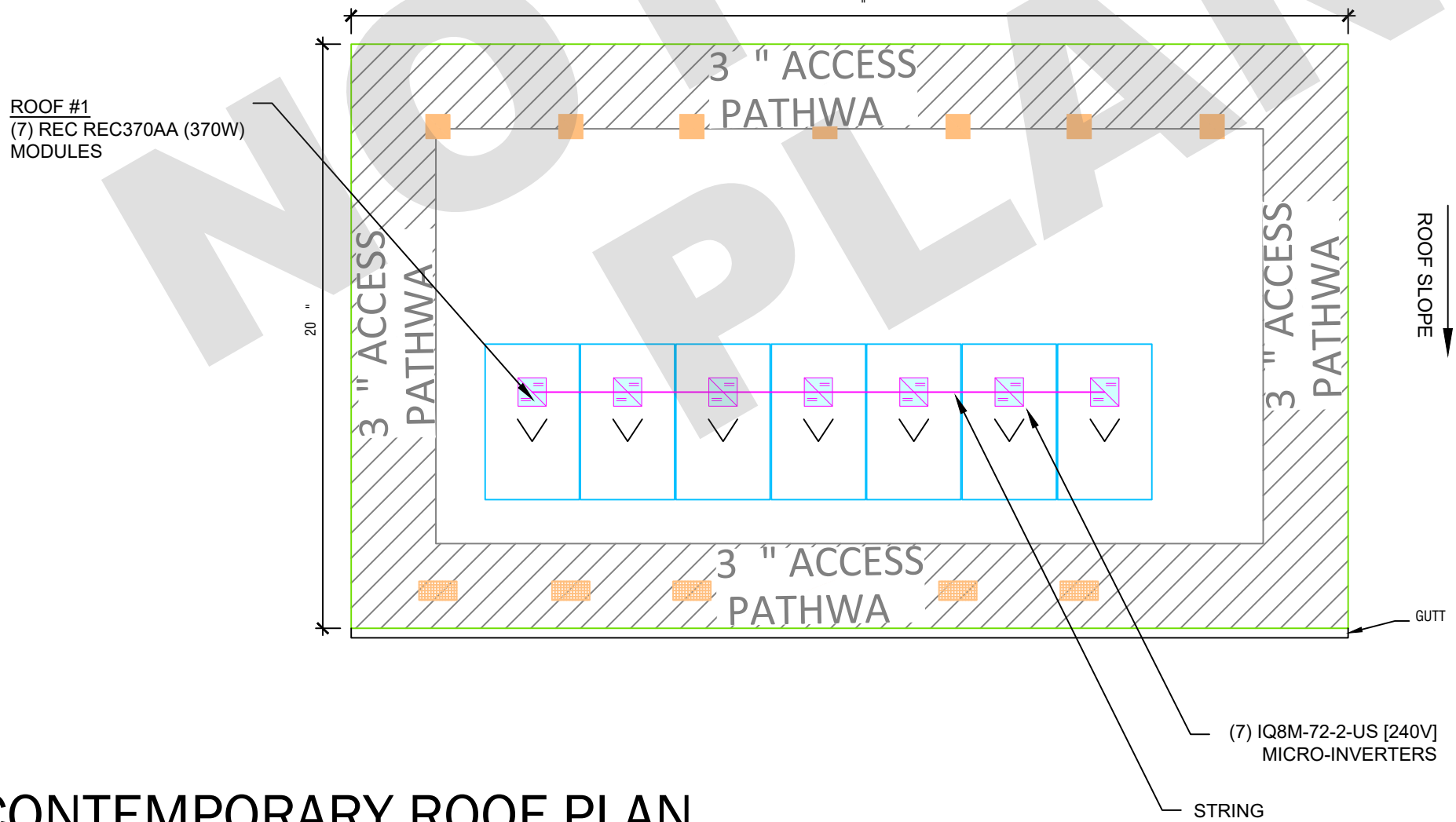
PV SCALE: 3/16" = 1'-0"

NOTE:
PV ARRAY TO BE ORIENTED
ON EITHER SOUTH OR
WEST FACING ROOF.



PV RACKING GABLE ROOF PLAN

2 PV SCALE: 3/16" = 1'-0"



PV RACKING CONTEMPORARY ROOF PLAN

3 PV SCALE: 3/16" = 1'-0"

PROJECT DESCRIPTION:

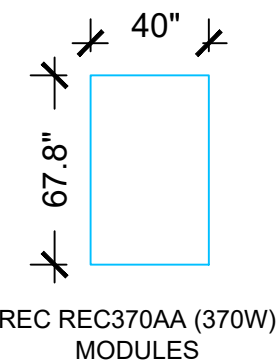
7X370 REC REC370AA (370W) MODULES
ROOF MOUNTED SOLAR PHOTOVOLTAIC SYSTEM
SYSTEM SIZE: 2.59 KW DC STC

EQUIPMENT SUMMARY
07 REC REC370AA (370W) MODULES
07 IQ8M-72-2-US [240V] MICROINVERTERS

MODULE TYPE, DIMENSIONS & WEIGHT

NUMBER OF MODULES = 7 MODULES
MODULE TYPE = REC REC370AA (370W) MODULES
MODULE WEIGHT = 43 LBS / 19.5 KG
MODULE DIMENSIONS = 67.8" x 40" = 18.83 SF
UNIT WEIGHT OF ARRAY = 2.28 PSF

ARRAY AREA WITH MOUNTING ROOF AREA				
ROOF TYPE	# OF MODULES	ARRAY AREA (Sq. Ft.)	TOTAL ROOF AREA (Sq. Ft.)	ROOF AREA COVERED BY ARRAY (%)
1	7	131.81	811	16.25
2	7	131.81	811	16.25
3	7	131.81	750	17.57



SHEET INDEX

PV-1 PLOT PLAN & VICINITY MAP
PV-2 ELECTRICAL DESIGN
PV-3 EQUIPMENT SPECIFICATIONS
PV-4 EQUIPMENT SPECIFICATIONS

GOVERNING CODES
THIS PROJECT SHALL COMPLY WITH THE FOLLOWING CODE
2019 CALIFORNIA ELECTRICAL CODE
2019 CALIFORNIA RESIDENTIAL CODE
2019 CALIFORNIA BUILDING CODE
2019 CALIFORNIA GREEN BUILDING STANDARDS CODE
2019 CALIFORNIA ENERGY CODE
2019 CALIFORNIA PLUMBING CODE
2019 CALIFORNIA MECHANICAL CODE
2017 NATIONAL ELECTRICAL CODE
ALL OTHER ORDINANCES ADOPTED BY THE LOCAL GOVERNING AGENCIES.

LEGEND

UM	UTILITY METER
ACD	AC DISCONNECT
CB	AC COMBINER BOX
MSP	MAIN SERVICE PANEL
VENT, ATTIC FAN	ROOF OBSTRUCTION
ROOF ATTACHMENT	
RAFTERS	
CONDUIT	

REVISIONS

DESCRIPTION	DATE	REV

S r S

PROJECT NAME ADDRESS

PROJECT NO. 2 4
ADU PROGRAM
CITY OF FRESNO
CALIFORNIA
ADU 2

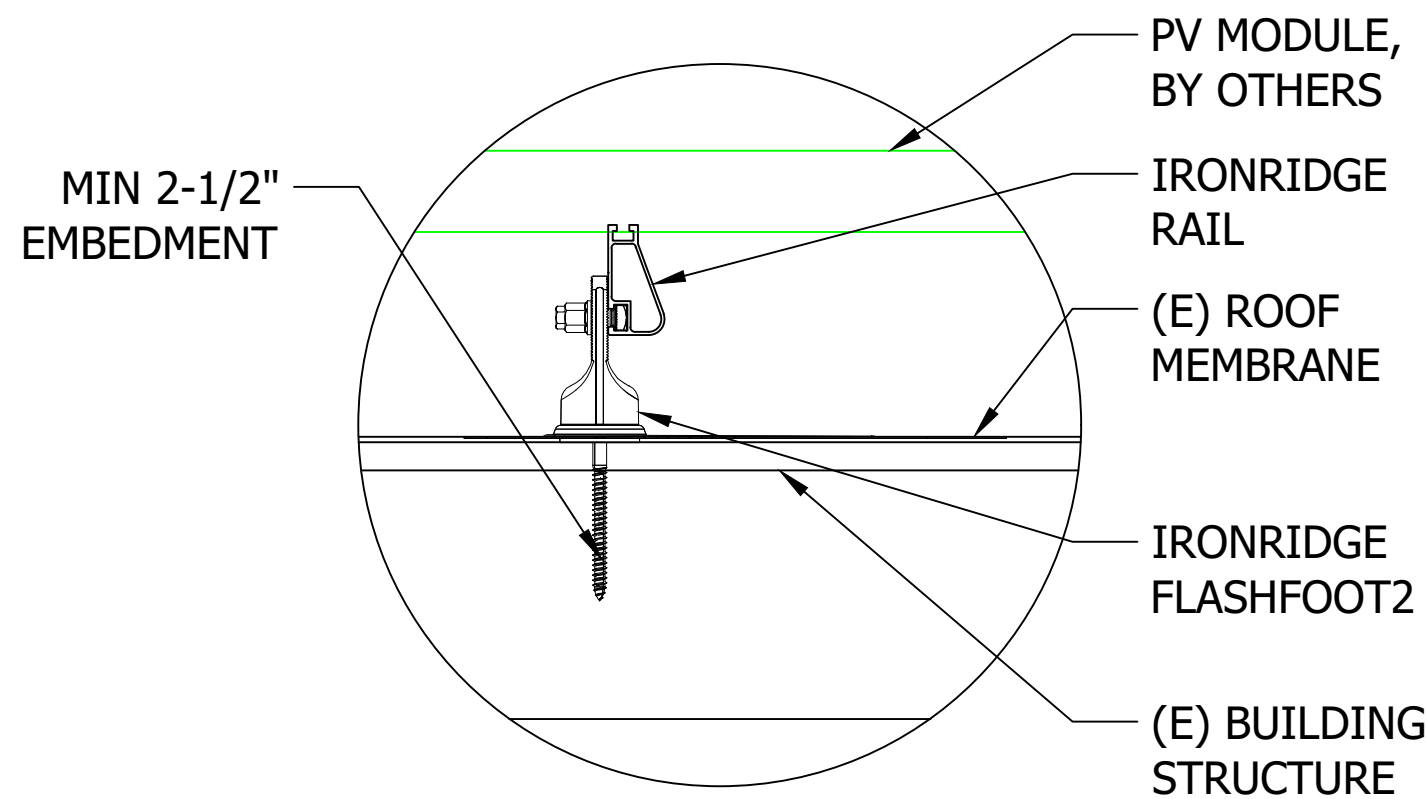
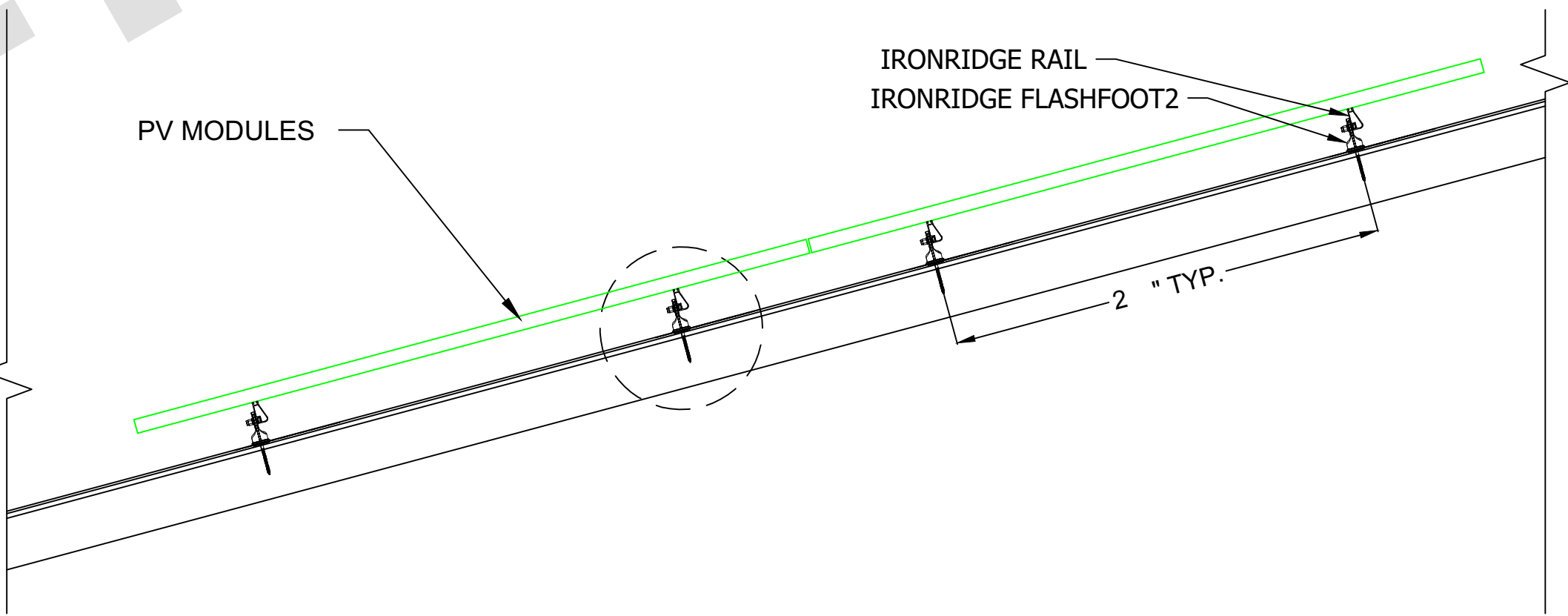
SHEET NAME
PLOT PLAN
LAYOUT

SHEET SI E

ARCH D
24" X 36"

SHEET NUMBER

PV



ATTACHMENT DETAIL

4 PV SCALE: NTS

(7) REC REC370AA (370W) MODULES
(1) BRANCH CIRCUITS OF 7 MICROINVERTERS
CONNECTED IN PARALLEL

NOTE:
EXTERIOR CONDUIT MUST BE PAINTED TO MATCH
COLOR OF THE SURFACE ON WHICH THEY ARE
MOUNTED.

Conduit Conductor Schedule (ALL CONDUCTORS MUST BE COPPER)				
Tag #	Description	Wire Gauge	# of Conductors/Color	Conduit Type Conduit Size
①	PV Wire	10 AWG	2 (L1, L2)	N/A-Free Air N/A-Free Air
	Bare Copper Ground (EGC/GEC)	6 AWG	1 BARE	
②	THWN-2	10 AWG	4 (1L1, 1L2) B/R	EMT 3/4"
	THWN-2 - Ground	8 AWG	1 (GRN)	

SOLAR MODULE SPECIFICATIONS	
MANUFACTURER	REC
MODEL #	REC370AA
PMAx	370W
VMP	37.4V
IMP	9.9A
VOC	44.1V
ISC	10.55A
MODULE DIMENSION	67.6"L x 40"W x 1.2"D (inch)

INVERTER SPECIFICATIONS	
MANUFACTURER / MODEL #	IQ8M-72-2-US [240V] MICROINVERTER
NOMINAL OUTPUT VOLTAGE	240 V
NOMINAL OUTPUT CURRENT	1.35 VAC

PERCENT OF VALUES	NUMBER OF CURRENT CARRYING CONDUCTORS IN EMT
.80	4-6
.70	7-9
.50	10-20

AMBIENT TEMPERATURE SPECS	
RECORD LOW TEMP	-10°F
AMBIENT TEMP (HIGH TEMP 2%)	37°F
CONDUIT HEIGHT	0.5"
ROOF TOP TEMP	59°F
CONDUCTOR TEMPERATURE RATE ON ROOF	90°F
CONDUCTOR TEMPERATURE RATE OFF ROOF	75°F
MODULE TEMPERATURE COEFFICIENT OF Voc	-----

OCPD Calculations

Breakers sized according to continuous duty output current. PV circuit nominal current based off # of modules per Circuit X (1.25[art.210.19(A)(1)(a)] X (1.35 Max AC current per micro-inverter)
Circuit #1 = 7 modules. Output Current w/ continuous duty = 11.81 < 20A Breaker
System output current w/ continuous duty = 11.81 < 20A (System OCPD)

AC CONDUCTOR AMPACITY CALCULATIONS: FROM ARRAY TO JUNCTION BOX

TEMP CORRECTION PER NEC TABLE 310.15(B)(2)(a): 0.91
CIRCUIT CONDUCTOR SIZE: 10 AWG
CIRCUIT CONDUCTOR AMPACITY: 35 A
#OF CURRENT CARRYING CONDUCTORS: 2
CONDUIT FILL PER NEC 310.15(B)(3)(a): FREE AIR

REQUIRED CIRCUIT CONDUCTOR AMPACITY PER NEC 690.8(A&B):
1.25 X MAX AC OUTPUT CURRENT X # OF INVERTERS PER STRING
1.25 X (1.35A X 7) = 11.81 A

DERATED AMPACITY OF CIRCUIT
TEMP CORR. PER NEC TABLE 310.15(B)(2)(a) X
CONDUIT FILL CORR. PER NEC TABLE 310.15(B)(3)(a) X
CIRCUIT CONDUCTOR AMPACITY =
0.88 X 1.0 X 35A = 30.8 A

AC CONDUCTOR AMPACITY CALCULATIONS: FROM JUNCTION BOX TO AC COMBINER BOX

TEMP CORRECTION PER NEC TABLE 310.15(B)(2)(a): 0.91
CIRCUIT CONDUCTOR SIZE: 10 AWG
CIRCUIT CONDUCTOR AMPACITY: 35 A
#OF CURRENT CARRYING CONDUCTORS: 2
CONDUIT FILL PER NEC 310.15(B)(3)(a): 1

REQUIRED CIRCUIT CONDUCTOR AMPACITY PER NEC 690.8(A&B):
1.25 X MAX AC OUTPUT CURRENT X # OF INVERTERS PER STRING
1.25 X (1.35A X 7) = 11.81 A

DERATED AMPACITY OF CIRCUIT
TEMP CORR. PER NEC TABLE 310.15(B)(2)(a) X
CONDUIT FILL CORR. PER NEC TABLE 310.15(B)(3)(a) X
CIRCUIT CONDUCTOR AMPACITY =
0.88 X 1.0 X 35A = 30.8 A

ELECTRICAL NOTES

- 1.) ALL EQUIPMENT TO BE LISTED BY UL OR OTHER NRTL, AND LABELED FOR ITS APPLICATION.
- 2.) ALL CONDUCTORS SHALL BE COPPER, RATED FOR 600 V AND 90 DEGREE C WET ENVIRONMENT, UNLESS SPECIFIED.
- 3.) WIRING, CONDUIT AND RACEWAYS MOUNTED ON ROOFTOPS SHALL BE ROUTED DIRECTLY TO, AND LOCATED AS CLOSE AS POSSIBLE TO THE NEAREST RIDGE, HIP OR VALLEY.
- 4.) WORKING CLEARANCES AROUND ALL NEW AND EXISTING ELECTRICAL EQUIPMENT SHALL COMPLY WITH NEC 110.26.
- 5.) DRAWINGS INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS. CONTRACTOR SHALL FURNISH ALL NECESSARY OUTLETS, SUPPORTS, FITTINGS AND ACCESSORIES TO FULFILL APPLICABLE CODES AND STANDARDS.
- 6.) WHERE SIZES OF JUNCTION BOXES, RACEWAYS, AND CONDUITS ARE NOT SPECIFIED, THE CONTRACTOR SHALL SIZE THEM ACCORDINGLY.
- 7.) ALL WIRE TERMINATIONS SHALL BE APPROPRIATELY LABELED AND READILY VISIBLE.
- 8.) MODULE BONDING AND GROUNDING CLIPS TO BE INSTALLED BETWEEN MODULE FRAME AND MODULE SUPPORT RAIL, PER THE GROUNDING CLIP AND PER RACKING MANUFACTURER'S INSTALLATION INSTRUCTION.
- 9.) THE POLARITY OF THE GROUNDED CONDUCTORS IS NEGATIVE

1 ELECTRICAL LINE DIAGRAM & CALCULATIONS

PV-2

WARNING
ELECTRIC SHOCK HAZARD
DO NOT TOUCH TERMINALS
TERMINALS ON BOTH LINE AND
LOAD SIDES MAY BE ENERGIZED
IN THE OPEN POSITION

LABEL LOCATION:
AC DISCONNECT, POINT OF INTERCONNECTION
PER CODE: NEC 706.15(C)(4) and NEC 690.13(B),
CIS

WARNING - Electric Shock Hazard
No user serviceable parts inside
Contact authorized service provider for assistance

LABEL LOCATION:
INVERTER, JUNCTION BOXES (ROOF), AC
DISCONNECT (PER CODE: NEC690.13.G.3 & NEC
690.13.G.4)

**WARNING: PHOTOVOLTAIC
POWER SOURCE**

LABEL LOCATION:
CONDUIT, COMBINER BOX
(PER CODE: NEC 690.31(D)(2))

**PV SYSTEM UTILITY
LOCKABLE AC DISCONNECT**

LABEL LOCATION:
AC DISCONNECT
[Only for systems >7kW]

MARKING CONTENT AND FORMAT
• **RED** BACKGROUND
• **WHITE** LETTERING
• **MINIMUM** 3/8" LETTER HEIGHT
• **ALL** CAPITAL LETTERS
• **SERIAL** OR SIMILAR FONT, NON-BOLD
• **REFLECTIVE** WEATHER RESISTANT
MATERIAL SUITABLE FOR THE
ENVIRONMENT (DURABLE ADHESIVE
MATERIALS MUST MEET THIS
REQUIREMENT)
• **TO** BE ATTACHED USING POP-RIEVTS

ADHESIVE FASTENED SIGNS.
• THE LABEL SHALL BE SUITABLE FOR THE ENVIRONMENT
WHERE IT IS INSTALLED.
• WHERE REQUIRED ELSEWHERE IN THIS CODE, ALL FIELD
APPLIED LABELS, WARNINGS, AND MARKINGS SHOULD
COMPLY WITH ANSI Z35.4 [NEC 110.21(B) FIELD MARKING].
• ADHESIVE FASTENED SIGNS MAY BE ACCEPTABLE IF
PROPERLY ADHERED. VINYL SIGNS SHALL BE WEATHER
RESISTANT [IFC 605.11.1.3]

WARNING
INVERTER OUTPUT CONNECTION DO NOT
RELOCATE THIS OVERCURRENT DEVICE

LABEL LOCATION:
POINT OF INTERCONNECTION
(PER CODE: NEC 706.12 (B)(3)(2))
(Not required if panelboard is rated not less than sum of ampere ratings
of all overcurrent devices supplying it)

CAUTION: SOLAR CIRCUIT

LABEL LOCATION:
MARKINGS PLACED ON ALL INTERIOR AND EXTERIOR DC CONDUIT, RACEWAYS, ENCLOSURES,
AND CABLE ASSEMBLIES AT LEAST EVERY 10 FT, AT TURNS AND ABOVE/BELOW PENETRATIONS
AND ALL COMBINER/JUNCTION BOXES. (PER CODE: NEC 690.31(C)(2))

**CAUTION: SOLAR ELECTRIC
SYSTEM CONNECTED**

LABEL LOCATION:
WEATHER RESISTANT MATERIAL, DURABLE ADHESIVE, UL969 AS STANDARD TO WEATHER
RATING (UL LISTING OF MARKINGS NOT REQUIRED), MIN 3/8" LETTER HEIGHT ARIAL OR
SIMILAR FONT NON-BOLD, PLACED WITHIN THE MAIN SERVICE DISCONNECT, PLACED ON
THE OUTSIDE OF THE COVER WHEN DISCONNECT IS OPERABLE WITH SERVICE PANEL
CLOSED. (PER CODE: NEC690.15, 690.13(B))

SOLAR DISCONNECT

LABEL LOCATION:
DISCONNECT, POINT OF INTERCONNECTION
(PER CODE: NEC690.13(B))

**WARNING DUAL POWER SOURCE
SECOND SOURCE IS PHOTOVOLTAIC SYSTEM**

LABEL LOCATION:
POINT OF INTERCONNECTION
(PER CODE: NEC 705.12(D)(3) & NEC 690.59)

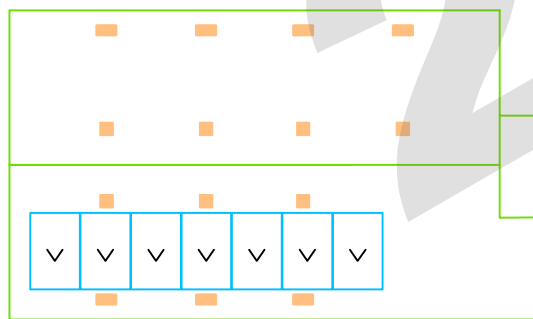
**PHOTOVOLTAIC POWER
SOURCE BREAKERS
ARE BACKFEEDING
240 VOLTS
20 AMPS**

LABEL LOCATION:
AC BREAKER AND AC DISCONNECT
(Inside or front of panel)

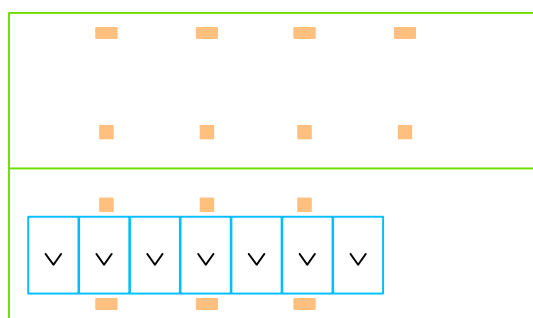
**SOLAR PV SYSTEM EQUIPPED
WITH RAPID SHUTDOWN**

TURN AC DISCONNECT
SWITCH TO THE
"OFF" POSITION TO
SHUT DOWN PV SYSTEM
AND REDUCE
SHOCK HAZARD
IN THE ARRAY

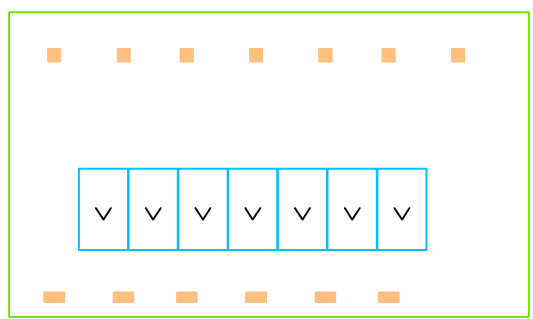
POWER TO THIS BUILDING IS ALSO SUPPLIED FROM THE
FOLLOWING SOURCES WITH DISCONNECTS LOCATED AS SHOWN
AT: ☒ MAIN SERVICE/
UTILITY METER
AC DISCONNECT



POWER TO THIS BUILDING IS ALSO SUPPLIED FROM THE
FOLLOWING SOURCES WITH DISCONNECTS LOCATED AS SHOWN
AT: ☒ MAIN SERVICE/
UTILITY METER
AC DISCONNECT



POWER TO THIS BUILDING IS ALSO SUPPLIED FROM THE
FOLLOWING SOURCES WITH DISCONNECTS LOCATED AS SHOWN
AT: ☒ MAIN SERVICE/
UTILITY METER
AC DISCONNECT



2 PLACARDS

PV-2

SCALE: NTS

REVISIONS

DESCRIPTION	DATE	REV

Signature with Seal

PROJECT NAME & ADDRESS

PROJECT NO. 2104
ADU PROGRAM
CITY OF FRESNO
CALIFORNIA

ADU 02

SHEET NAME
ELECTRICAL
DESIGN

SHEET SIZE

ARCH D
24" X 36"

SHEET NUMBER

PV-2

Solar Is Not Always Sunny

Over their lifetime, solar panels experience countless extreme weather events. Not just the worst storms in years, but the worst storms in 40 years. High winds capable of ripping panels from a roof, and snowfalls weighing enough to buckle a panel frame.

XR Rails are the structural backbone preventing these results. They resist uplift, protect against buckling and safely and efficiently transfer loads into the building structure. Their superior spanning capability requires fewer roof attachments, reducing the number of roof penetrations and the amount of installation time.

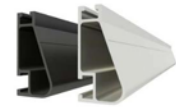
Force-Stabilizing Curve
Stepped roofs generate both vertical and lateral forces on mounting rails which can cause them to bend and twist. The curved shape of XR Rails is specially designed to increase strength in both directions while resisting the twisting. This unique feature ensures greater security during extreme weather and a longer system lifetime.

Compatible with Flat & Pitched Roofs



Corrosion-Resistant Materials

All XR Rails are made of marine-grade aluminum alloy, then protected with an anodized finish. Anodizing prevents surface and structural corrosion, while also providing a more attractive appearance.



XR Rail Family

The XR Rail Family offers the strength of a curved rail in three targeted sizes. Each size supports specific design loads, while minimizing material costs. Depending on your location, there is an XR Rail to match.



XR10
XR10 is a sleek, low-profile mounting rail, designed for regions with light or no snow. It achieves 6 foot spans, while maintaining light and economical.

- 6' spanning capability
- Moderate load capability
- Clear anodized finish
- Internal splices available



XR100
XR100 is the ultimate residential mounting rail. It supports a range of wind and snow conditions, while also maintaining spans up to 8 feet.

- 8' spanning capability
- Heavy load capability
- Clear & black anodized finish
- Internal splices available



XR1000
XR1000 is a heavyweight among solar mounting rails. It's built to handle extreme climates and spans 12 feet or more for commercial applications.

- 12' spanning capability
- Extreme load capability
- Clear anodized finish
- Internal splices available

Rail Selection

The following table was prepared in compliance with applicable engineering codes and standards. Values are based on the following criteria: ASCE 7-10, Roof Zone 1, Exposure B, Roof Slope of 7 to 27 degrees and Mean Building Height of 30 ft. Visit IronRidge.com for detailed span tables and certifications.

Load		Rail Span					
Snow (PSF)	Wind (MPH)	4'	5' 4"	6'	8'	10'	12'
None	100						
	120						
	140	XR10		XR100		XR1000	
	160						
10-20	100						
	120						
	140						
	160						
30	100						
	160						
40	100						
	160						
50-70	160						
80-90	160						

Attn: Corey Geiger, COO, IronRidge Inc.
Date: December 31st, 2019

Re: Structural Certification and Span Tables for the IronRidge Flush Mount System

This letter addresses the structural performance and code compliance of IronRidge's Flush Mount System. The contents of the letter shall be read in its entirety before applying to any project design. The Flush Mount System is a proprietary rooftop mounting system used to support photovoltaic (PV) modules installed in portrait or landscape orientation and set parallel to the underlying roof surface. PV modules are supported by extruded aluminum XR Rails and secured to the rails with IronRidge mounting clamps. The XR Rails are side mounted to a selected roof attachment with 3/8" stainless steel bonding hardware and then attached directly to the roof structure or to a stanchion that is fastened to the underlying roof structure. Assembly details of a typical Flush Mount installation and its core components are shown in Exhibit EX-0015.

The IronRidge Flush Mount System is designed and certified to the structural requirements of the reference standards listed below, for the load conditions and configurations tabulated in the attached span tables.

- ASCE/SEI 7-16 Minimum Design Loads for Buildings and Other Structures (ASCE 7-16)
- 2018 International Building Code (IBC-2018)
- 2019 California Building Code (CBC-2019)
- 2015 Aluminum Design Manual (ADM-2015)

The tables included in this letter provide the maximum allowable spans of XR Rails in the Flush Mount System for the respective loads and configurations listed, covering wind exposure categories B, C, & D, roof zones provided in ASCE 7-16 for gable & hip roof profiles, and roof slopes of 8° to 45°. The tabulated spans are applicable when the following conditions are met:

1. Span is the distance between two adjacent roof attachment points (measured at the center of the attachment fastener).
2. The underlying roof pitch, measured between the roof surface and horizontal plane, is 45° or less.
3. The mean roof height, defined as the average of the roof eave height and the roof ridge height measured from grade, does not exceed 30 feet.
4. A clearance from the underside of the array to the roof surface of 2" minimum shall be provided and the height of the array, the distance from the module top surface to the roof surface (defined as h), shall not exceed 10".
5. Module length and area shall not exceed the maximum values listed on the respective span tables.
6. All Flush Mount components shall be installed in a professional workmanlike manner per IronRidge's Flush Mount Installation Manual and other applicable standards for the general roof construction practice.

© 2019 IronRidge, Inc.

CA Flush Mount System Certification Letter - 1

The parameters and adjustments allowed in the span tables are defined as the following:

1. The Flush Mount System is designed as a Risk Category II structure as defined by ASCE 7-16 Table 1.5-1.
2. Wind speed shall conform to ASCE 7-16 Fig. 26.5-1B (for Risk Category II) and applicable state & local county/city amendments to the IBC. No special wind topographic features are included and both topographic coefficient (K_z) and wind ground elevation factor (K_g) are taken as 1.0.
3. Snow load used in the span tables is the ground snow and shall conform to ASCE 7-16 Fig. 7.2-1 and applicable state & local county/city amendments to the IBC. If the local jurisdiction specified snow load is in the format of a flat roof snow, it shall first be converted to a ground snow following the local building code amendments before the application of the attached span tables. No special snow conditions are considered including unbalanced, drifting, sliding, retention, or ponding snow. No rain-on-snow surcharge load is considered. The span tables do not apply to buildings which are intentionally kept below freezing, kept just above freezing, or unheated.
4. The span tables reflect the ASCE 7 prescribed earthquake loads with the maximum magnitudes being:
 - (a) For ground snow no greater than 42psf: S_s ≤ 2.0g for Site Class A, B, C, & D.
 - (b) For ground snow greater than 42psf: S_s ≤ 1.0g for Site Class A, B, C, & D.
 - (c) For ground snow between 42 and 65psf: S_s ≤ 1.5g for Site Class A, B, C, & D.
5. Roof zones are defined by ASCE 7-16 Figure 30.3-2A to Figure 30.3-2I and are organized into three groups in which the zones share the same External Pressure Coefficients (G_{CF}). Roof zones comprising each group along with each roof zone's size and location are depicted in Figures 2 and 3 below each span table.
6. The maximum rail cantilever length, measured from the rail end to the nearest attachment point, shall be the lesser of the following two conditions: 40% of the allowable span provided for the respective load & configuration condition from the span tables, or 36".
7. Allowable span length in the charts may be multiplied by a factor of 1.08 if the rails are continuous over a minimum of three spans.
8. No rail splices are allowed in the cantilever, outer 2/3 of end spans, or middle 1/3 of interior spans.
9. Shaded cells of the span tables indicate conditions in which UFO Mid Clamp connection capacity is exceeded. If such conditions are encountered contact support@ironridge.com.
10. Systems using CAMO module clamps shall be installed with the following guidance:
 - a) For single module installations (orphan modules) using modules with a length greater than 87.5", CAMO clamps shall not be installed in regions that experience ground snow loads of 70psf and greater. Such scenarios are shown by asterisks in the applicable span tables.
 - b) CAMO will function within a module's design load ratings. Be sure the specific module being used with CAMO meets the dimensional requirements shown in the figure below and that the module selected is suitable for the environmental conditions of a particular project.

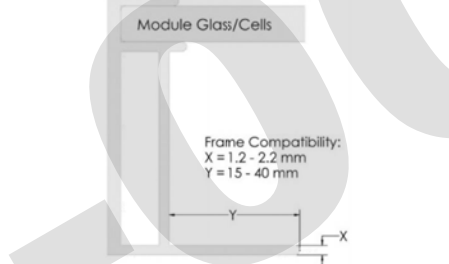


Figure 1- CAMO Module Frame Dimensional Requirements

© 2019 IronRidge, Inc.

CA Flush Mount System Certification Letter - 2

Span values for *Exposed* and *Edge* module conditions, as defined below, are included in the attached span tables and shall be used when each condition exists. The maximum allowable span for *Exposed* or *Edge* modules shall be the lesser of the following two: (1) The span value for the *Exposed* or *Edge* module condition; (2) The span value determined by site wind speed and ground snow load. Additionally, irrespective of the lesser span, the shaded cells for the *Exposed* and *Edge* module conditions which reflect the UFO clamp usage limitation detailed in note 5 of page 2 shall apply to the respective condition.

1. Exposed Module conditions:

A module is defined as *Exposed* (per Section 29.4.4 of ASCE 7-16) if the distance from any of its free edges (an edge with no connectivity to other modules) to its facing roof edge (such as eave, ridge, rake, or hip) is greater than 0.5h (h is ASCE defined building height) AND if the distance from its free edge to any other adjacent array or panel is greater than 4 feet.

The allowable spans and cantilever shall only be applied to the portion of rail directly under *Exposed* Modules.

2. Edge Module conditions:

A module is defined as an *Edge Module* when its distance from any side of the module to its facing perimeter roof edge (such as eave, ridge, rake, or hip) is less than 2 times the height of the array (2h_a) where h_a is measured from the roof surface to the top surface of the module.

The allowable spans and cantilever shall only be applied to the portion of rail directly under *Edge Modules*. Additionally, if the roof edge is the eave or ridge, only the rail nearest to that roof edge shall be considered for this span adjustment.

28357 Industrial Blvd.
Hayward, CA 94545
1-800-227-9523
ironridge.com

The span tables provided in this letter are certified based on the structural performance of IronRidge XR Rails only with no consideration of the structural adequacy of the chosen roof attachments, PV modules, or the underlying roof supporting members. It is the responsibility of the installer or system designer to verify the structural capacity and adequacy of the aforementioned system components in regards to the applied or resultant loads of any chosen array configuration.

Sincerely,

Gang Xuan, SE
Senior Structural Engineer



Date Sealed:

2019.12.31

15:20:49

-08'00'

Test Verification of Conformity

In the basis of the tests undertaken, the sample(s) of the below product have been found to comply with the requirements of the referenced specifications at the time the tests were carried out.

Applicant Name & Address:	IronRidge, Inc. 1495 Zephyr Ave. Hayward, CA 94544 USA
Product Description:	Flush Mount System with XR Rails.
Ratings & Principle Characteristics:	Fire Class Resistance Rating: -Flush Mount (Symmetrical), Class A Fire Rated for Low Slope applications when using Type 1, 2 and 3, listed photovoltaic modules. Class A Fire Rated for Steep Slope applications with Type1, 2 and 3, listed photovoltaic modules. Tested with a 5" gap (distance between the bottom of the module frame and the roof covering), per the standard this system can be installed at any gap allowed by the manufacturers installation instructions. No perimeter guarding is required. This rating is applicable with any IronRidge or 3rd party roof anchor.
Models:	IronRidge Flush Mount with XR Rails
Brand Name:	IronRidge Flush Mount
Relevant Standards:	UL 2703 (Section 15.2 and 15.3) Standard for Safety Mounting Systems, Mounting Devices, Clamping/Retention Devices, and Ground Lugs for Use with Flat-Plate Photovoltaic Modules and Panels, First Edition dated Jan. 26, 2015 Referencing UL1703 Third Edition dated Nov. 18, 2014, (Section 31.2) Standard for Safety for Flat-Plate Photovoltaic Modules and Panels.
Verification Issuing Office:	Intertek Testing Services NA, Inc. 8431 Murphy Drive Middletown, WI 53562 08/27/2014 to 03/17/2015
Date of Tests:	08/27/2014 to 03/17/2015
Test Report Number(s):	101769343MID-001-1, 101769343MID-001a, 101915978MID-001 & 101999492MID-001a1-cr1.
This verification is part of the full test report(s) and should be read in conjunction with them. This report does not automatically imply product certification.	
Completed by:	Chris Zimbrich
Title:	Technician II, Fire Resistance
Reviewed by:	Chad Naggs
Title:	Technician I, Fire Resistance
Signature:	
Date:	05/25/2016
Signature:	
Date:	05/25/2016

This Verification is for the exclusive use of Intertek's client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this Verification. Only the Client is authorized to permit copying or distribution of this Verification. Any use of the Intertek name or use of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test/inspection results referenced in this Verification are relevant only to the sample tested/inspected. This Verification by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program.

GFT-OP-11a (24-MAR-2014)

REVISIONS

DESCRIPTION	DATE	REV

S r S

PROJECT NAME ADDRESS

PROJECT NO. 2 4
ADU PROGRAM
CITY OF FRESNO
CALIFORNIA

ADU 2

SHEET NAME
E UIPMENT
SPECIFICATION

SHEET SI E

ARCH D
24" X 36"

SHEET NUMBER

PV 4